Appendix C

Traffic

Traffic Count Data

Morinville Traffic Model Overview

Synchro Reports

- *Existing Road Network – Existing Traffic Operations*
- *50% Build Out – 100 Avenue Roundabout Option*
- *100% Build Out – 100 Avenue Roundabout Option*
- *100% Build Out – Conventional Intersection Option*

Traffic Count Data

DIRECTIONAL TRAFFIC COUNT SUMMARY

HIGHWAY: 642 **REFERENCE NO.:** **INTERSECTION OF:** Hwy 642 (100 Ave) & 107 St, Morinville AB

LATITUDE (degrees): **LONGITUDE (degrees):** **LEGAL DESCRIPTION:**

DAY & DATE OF COUNT: May 2012 **COUNT DURATION:** 6 HOURS (6:00 TO 9:00 AM, 3:30 TO 6:30 PM)

	APPROACHING INTERSECTION												
	FROM THE EAST ON 642						FROM THE WEST ON 642						
INTERVAL	LEFT		THROUGH		RIGHT		LEFT		THROUGH		RIGHT		TOTALS
6:00-6:15 AM	1		50				1		12	2	6		72
6:15 - 6:30	5		66		1		1		18	1	4		96
6:30 - 6:45	8		80	1	6		1		41	2	5		144
6:45 - 7:00	9		88	5	7	1	5		33	2	6		156
7:00 - 7:15	3		92	1	1		2		24	2	4		129
7:15 - 7:30	5		103	2	2		2		28	2	6		150
7:30 - 7:45	5		96		5		7		29		8	2	152
7:45 - 8:00	5		81	3	6		7	1	69	2	6		180
8:00 - 8:15	11	1	86	2	5		4		43	5	5		162
8:15 - 8:30	6		70	3	6		2		47	2	5	1	142
8:30 - 8:45	8		75	5	2		7		48	2	7		154
8:45-9:00 AM	9	1	49	2	4		7		46	1	7	2	128
3:30-3:45 PM	19		72	12	7		5	1	38	6	12		172
3:45 - 4:00	14	1	80	13			3		86	5	16		218
4:00 - 4:15	11	1	86	3	3		3		72	7	8		194
4:15 - 4:30	10		69	2	2				81	9	19	1	193
4:30 - 4:45	9		92	2	7		5		98	5	20		238
4:45 - 5:00	12		96	4	7		4		106	2	21		252
5:00 - 5:15	13		98	4	6		9		105	5	25		265
5:15 - 5:30	13		87	5	4	1	3	1	79	4	14		211
5:30 - 5:45	23		94	3	3		1		73	2	24	2	225
5:45 - 6:00	6		51	4	3		2		89		16		171
6:00 - 6:15	8		57	5	3		6		73		17		169
6:15-6:30 PM	7		44	2	1		6		42	2	20		124
VEH CLASS	P	T	P	T	P	T	P	T	P	T	P	T	
TOTALS	220	4	1862	83	91	2	93	3	1380	70	281	8	4097
	EL		ET		ER		WL		WT		WR		

	APPROACHING INTERSECTION													
	FROM THE NORTH ON 107 ST						FROM THE SOUTH ON 107 ST							
INTERVAL	LEFT		THROUGH		RIGHT		LEFT		THROUGH		RIGHT		TOTALS	GRAND TOTALS
6:00-6:15 AM	1		2		1		20				6		30	102
6:15 - 6:30					4		21				5		30	126
6:30 - 6:45	2				2	1	22		1		4		32	176
6:45 - 7:00	2		1		5		17		5		6		36	192
7:00 - 7:15	3				5		30				7		45	174
7:15 - 7:30	4				6		13		1		10		34	184
7:30 - 7:45	3				5		16			1	9		34	186
7:45 - 8:00	7	1	1		6	1	8		1	1	22	1	49	229
8:00 - 8:15	2				5	1	15		3		13		39	201
8:15 - 8:30	1		2		6		16		1		12		38	180
8:30 - 8:45	4	1	1		2		12				9		29	183
8:45-9:00 AM	1		1		2		7		3		6	1	21	149
3:30-3:45 PM	5		6		7		7				16	2	43	215
3:45 - 4:00	6		1		4		8	2	2		12		35	253
4:00 - 4:15	4			1	6		7		1		11		30	224
4:15 - 4:30	5				5		9		1		6		26	219
4:30 - 4:45	5				11		7				10	1	34	272
4:45 - 5:00	1		2		8		10				7		28	280
5:00 - 5:15	3		2		7	2	7		1		15	1	38	303
5:15 - 5:30	3		1		5		10				13		32	243
5:30 - 5:45	1		1		12		14	1	2		6		37	262
5:45 - 6:00	2				2		6				12	2	24	195
6:00 - 6:15	2		1		6	1	13		2		10		35	204
6:15-6:30 PM	2				7		13		2		6		30	154
VEH CLASS	P	T	P	T	P	T	P	T	P	T	P	T		
TOTALS	69	2	22	1	129	6	308	3	26	2	233	8	809	4906
	NL		NT		NR		SL		ST		SR			

LOCATION DIAGRAM ENCLOSED (Y/N): NO

WEATHER CONDITIONS:

RECORDER(S):

COMMENTS:

VEHICLE CLASSES

P: PASSENGER VEHICLES

T: TRUCKS

DIRECTIONAL TRAFFIC COUNT SUMMARY

HIGHWAY: 642 **REFERENCE NO.:** **INTERSECTION OF:** Hwy 642 (100 Ave) & 104 St, Morinville AB

LATITUDE (degrees): **LONGITUDE (degrees):** **LEGAL DESCRIPTION:**

DAY & DATE OF COUNT: May 2012 **COUNT DURATION:** 6 HOURS (6:00 TO 9:00 AM, 3:30 TO 6:30 PM)

	APPROACHING INTERSECTION												
	FROM THE EAST ON 642						FROM THE WEST ON 642						
INTERVAL	LEFT		THROUGH		RIGHT		LEFT		THROUGH		RIGHT		TOTALS
6:00-6:15 AM	1		60	2					17				**80**
6:15 - 6:30			71				1		23				**95**
6:30 - 6:45	2		84				2		41	4			**133**
6:45 - 7:00			86	3					30	2	1		**122**
7:00 - 7:15			107	1					38	3			**149**
7:15 - 7:30			116	3					41		2		**162**
7:30 - 7:45	2		106	4					52	6	3	1	**174**
7:45 - 8:00	4	2	100	6			2		80	7	2		**203**
8:00 - 8:15	5		85	10	2				70	7	7	1	**187**
8:15 - 8:30	8	1	75	6					65	3	7		**165**
8:30 - 8:45	5		81	8	1				52	5			**152**
8:45-9:00 AM	14	1	80	5	2		2		70	1	6	1	**182**
3:30-3:45 PM	8	2	46	3			1		34	6		1	**101**
3:45 - 4:00	3	3	99	7			1	1	47	11			**172**
4:00 - 4:15	11		112	8	3	1	2		52	2	2		**193**
4:15 - 4:30	30		135	2	4		2		44	13		1	**231**
4:30 - 4:45	8		124	5					42	5	5		**189**
4:45 - 5:00	9		114	5			2		39	7	6		**182**
5:00 - 5:15	7		102	3					63	3	17		**195**
5:15 - 5:30	3		88	4			1		79	3	4		**182**
5:30 - 5:45	5		78	4					51		1		**139**
5:45 - 6:00	5		83	1	2				47		7		**145**
6:00 - 6:15	4		63	4	2				63	1	4		**141**
6:15-6:30 PM	3		58	1	1		1		56	2	4		**126**
VEH CLASS	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	
TOTALS	137	9	2153	95	17	1	17	1	1196	91	78	5	**3800**
	EL		**ET**		**ER**		**WL**		**WT**		**WR**		

	APPROACHING INTERSECTION													
	FROM THE NORTH ON 104 ST						FROM THE SOUTH ON 104 ST							
INTERVAL	LEFT		THROUGH		RIGHT		LEFT		THROUGH		RIGHT		TOTALS	GRAND TOTALS
6:00-6:15 AM											1		**1**	**81**
6:15 - 6:30					2		1				1		**4**	**99**
6:30 - 6:45					2		3				1		**6**	**139**
6:45 - 7:00							3				1		**4**	**126**
7:00 - 7:15					1		1	1			2		**5**	**154**
7:15 - 7:30			1		2		1	1			2		**7**	**169**
7:30 - 7:45					1		3	1			7	1	**13**	**187**
7:45 - 8:00		1	2				6		1	1	8		**19**	**222**
8:00 - 8:15	1		1		1	1	2		1		5	1	**13**	**200**
8:15 - 8:30			2		2		6	1	1		6		**18**	**183**
8:30 - 8:45							1				5		**6**	**158**
8:45-9:00 AM							3	1			2		**6**	**188**
3:30-3:45 PM	1				1		2		3		2	2	**11**	**112**
3:45 - 4:00					1		3		1		7	1	**13**	**185**
4:00 - 4:15					1		3				6		**10**	**203**
4:15 - 4:30	2				2		3				3	1	**11**	**242**
4:30 - 4:45	1				1	1	12				4		**19**	**208**
4:45 - 5:00	1		1		1		11	1			9		**24**	**206**
5:00 - 5:15			1		3		5	1			3		**13**	**208**
5:15 - 5:30					1		2				5		**8**	**190**
5:30 - 5:45			1		2		5				2		**10**	**149**
5:45 - 6:00					3		8		2		12		**25**	**170**
6:00 - 6:15	3		1		1		2		1		3		**11**	**152**
6:15-6:30 PM	1		1				1				2		**5**	**131**
VEH CLASS	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**		
TOTALS	10	1	11	0	28	2	87	7	10	1	99	6	**262**	**4062**
	NL		**NT**		**NR**		**SL**		**ST**		**SR**			

LOCATION DIAGRAM ENCLOSED (Y/N): NO

WEATHER CONDITIONS:

RECORDER(S):

COMMENTS:

VEHICLE CLASSES

P: PASSENGER VEHICLES

T: TRUCKS

DIRECTIONAL TRAFFIC COUNT SUMMARY

HIGHWAY: 642 **REFERENCE NO.:** **INTERSECTION OF:** Hwy 642 (100 Ave) & 102 St, Morinville AB

LATITUDE (degrees): **LONGITUDE (degrees):** **LEGAL DESCRIPTION:**

DAY & DATE OF COUNT: May 2012 **COUNT DURATION:** 6 HOURS (6:00 TO 9:00 AM, 3:30 TO 6:30 PM)

	APPROACHING INTERSECTION												
	FROM THE EAST ON 642						FROM THE WEST ON 642						
INTERVAL	LEFT		THROUGH		RIGHT		LEFT		THROUGH		RIGHT		TOTALS
6:00-6:15 AM	1		48	1	1				13		1		**65**
6:15 - 6:30	2		64		1		1		19		1		**88**
6:30 - 6:45	4		78				2		16	6	9		**115**
6:45 - 7:00		1	69	3			5		18	2	6		**104**
7:00 - 7:15			95		1		2		18	5			**121**
7:15 - 7:30	1		90	4	2				26	2	5		**130**
7:30 - 7:45	3		52	3	1		1		55	8	2	1	**126**
7:45 - 8:00			80	8			7		36	7	1	1	**140**
8:00 - 8:15	3		81	5	1		8		59	7	3		**167**
8:15 - 8:30	1		59	3			3		51	4	11		**132**
8:30 - 8:45			102	5	1		3		45		6		**162**
8:45-9:00 AM	2		88	3	5		3		60	3	1		**165**
3:30-3:45 PM	4		77	4	2	1	3		45	3	4		**143**
3:45 - 4:00	3		115	13	2		5		73	8	4		**223**
4:00 - 4:15	7		105						84		2		**198**
4:15 - 4:30	4		111	2	3		2		73	6	8	2	**211**
4:30 - 4:45	7		125	2	3		2		127	7	5		**278**
4:45 - 5:00	6		115	3	2		2		115	3	13		**259**
5:00 - 5:15	6	1	105	5	8		4		108	2	13		**252**
5:15 - 5:30	6		120	4	5		4		103	2	8		**252**
5:30 - 5:45	6		128	6	10		6		79		14		**249**
5:45 - 6:00	18		118	1	5		3		95	1	5		**246**
6:00 - 6:15	6		93	2	6		5		72	1	8		**193**
6:15-6:30 PM	9		73	4	2		3		57	4	4		**156**
VEH CLASS	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	
TOTALS	99	2	2191	81	61	1	74	0	1447	81	134	4	**4175**
	EL		**ET**		**ER**		**WL**		**WT**		**WR**		

	APPROACHING INTERSECTION													
	FROM THE NORTH ON 102 ST						FROM THE SOUTH ON 102 ST							
INTERVAL	LEFT		THROUGH		RIGHT		LEFT		THROUGH		RIGHT		TOTALS	GRAND TOTALS
6:00-6:15 AM					4		1						**5**	**70**
6:15 - 6:30					2		2						**4**	**92**
6:30 - 6:45	1				4		4				2		**11**	**126**
6:45 - 7:00					1		8				1		**10**	**114**
7:00 - 7:15			1		4		5						**10**	**131**
7:15 - 7:30					2		6				4		**12**	**142**
7:30 - 7:45	1				3		5	1			2		**12**	**138**
7:45 - 8:00	1				3		5				3		**12**	**152**
8:00 - 8:15	4		1	1	2	2	5	1	2		4	1	**23**	**190**
8:15 - 8:30	1	2		1	5		9						**18**	**150**
8:30 - 8:45					1		2				2		**5**	**167**
8:45-9:00 AM	1				5		3		1		2		**12**	**177**
3:30-3:45 PM					7		8		3		3	1	**22**	**165**
3:45 - 4:00	2						8		2		5		**17**	**240**
4:00 - 4:15			1				8		1		2		**12**	**210**
4:15 - 4:30	1		1		1		4				8		**15**	**226**
4:30 - 4:45	2		5		3		4		1		6	1	**22**	**300**
4:45 - 5:00	1		1				10				7		**19**	**278**
5:00 - 5:15	1		1		3		5	1	1		12		**24**	**276**
5:15 - 5:30					6		8		1		3		**18**	**270**
5:30 - 5:45	4		3		3		5		1		5		**21**	**270**
5:45 - 6:00	2		1		1		4				3		**11**	**257**
6:00 - 6:15					1		4				5		**10**	**203**
6:15-6:30 PM	2				2		3				2		**9**	**165**
VEH CLASS	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**		
TOTALS	24	2	15	2	63	2	126	3	13	0	81	3	**334**	**4509**
	NL		**NT**		**NR**		**SL**		**ST**		**SR**			

LOCATION DIAGRAM ENCLOSED (Y/N): NO

WEATHER CONDITIONS:

RECORDER(S):

COMMENTS:

VEHICLE CLASSES

P: PASSENGER VEHICLES

T: TRUCKS

DIRECTIONAL TRAFFIC COUNT SUMMARY

HIGHWAY: 642 **REFERENCE NO.:** **INTERSECTION OF:** Hwy 642 (100 Ave) & Grandin Drive, Morinville AB

LATITUDE (degrees): **LONGITUDE (degrees):** **LEGAL DESCRIPTION:**

DAY & DATE OF COUNT: May 2012 **COUNT DURATION:** 6 HOURS (6:00 TO 9:00 AM, 3:30 TO 6:30 PM)

	APPROACHING INTERSECTION												
	FROM THE EAST ON 642						FROM THE WEST ON 642						
INTERVAL	LEFT		THROUGH		RIGHT		LEFT		THROUGH		RIGHT		TOTALS
6:00-6:15 AM	1	1	12	10			1		14		3		**42**
6:15 - 6:30	7	5			7	5	1		6	8	2		**41**
6:30 - 6:45	23	7			10	6			24	1	1		**72**
6:45 - 7:00	14	13			14	6	2		17		3		**69**
7:00 - 7:15	10	9			7	11	2		20	1	1		**61**
7:15 - 7:30	16	5			10	5	3		3			1	**43**
7:30 - 7:45			17	13	7	1	18	2	20		6		**84**
7:45 - 8:00	13	4	13	5	2		21	4	11		1		**74**
8:00 - 8:15	40	10	12	5	9	2	15		19	3	9	3	**127**
8:15 - 8:30	15	2	10	1	3	1	12		16		7		**67**
8:30 - 8:45	14		8	8	3	1	10	2	28	3	15		**92**
8:45-9:00 AM	4		9	1	1	2	8	1	22		10		**58**
3:30-3:45 PM	7		27	2	5		15		28	1	21		**106**
3:45 - 4:00	2		17	3	6		5		23	1	19	1	**77**
4:00 - 4:15	3		35	2	2		26		29	2	26		**125**
4:15 - 4:30	17		48		7		17		41	4	35	1	**170**
4:30 - 4:45	1		43	2	3		13		16		11		**89**
4:45 - 5:00	2	1	15		1		23		33		32		**107**
5:00 - 5:15	10		15	3	2	2	12		22		25		**91**
5:15 - 5:30	11		18	1	10	1	20		41		27		**129**
5:30 - 5:45	7		22		6		22		38		23		**118**
5:45 - 6:00	7		22	1	5		23		25		30		**113**
6:00 - 6:15	4		13	1	5		22		25		27		**97**
6:15-6:30 PM	4		12		7		17		21		29		**90**
VEH CLASS	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	
TOTALS	232	57	368	58	132	43	308	9	542	24	363	6	**2142**
	EL		**ET**		**ER**		**WL**		**WT**		**WR**		

	APPROACHING INTERSECTION													
	FROM THE NORTH ON GRADIN DR						FROM THE SOUTH ON GRANDIN DR							
INTERVAL	LEFT		THROUGH		RIGHT		LEFT		THROUGH		RIGHT		TOTALS	GRAND TOTALS
6:00-6:15 AM	3		1		15		10	6			11	6	**52**	**94**
6:15 - 6:30	1			1	7	8							**17**	**58**
6:30 - 6:45	5		1		25								**31**	**103**
6:45 - 7:00	5				10								**15**	**84**
7:00 - 7:15	10				17								**27**	**88**
7:15 - 7:30	2		1		6								**9**	**52**
7:30 - 7:45	7		3	1	27	6							**44**	**128**
7:45 - 8:00	7		5		44								**56**	**130**
8:00 - 8:15	4		3		60								**67**	**194**
8:15 - 8:30	7		2	1	37	1							**48**	**115**
8:30 - 8:45	2		16	1	20								**39**	**131**
8:45-9:00 AM	2		7		12								**21**	**79**
3:30-3:45 PM	1		4		8		4	1	5				**23**	**129**
3:45 - 4:00	3		3		10		12		5				**33**	**110**
4:00 - 4:15	1		5		9		12		2	1	6	1	**37**	**162**
4:15 - 4:30	1		2		10		16	1	3		2		**35**	**205**
4:30 - 4:45	2		3	1	4		8		1				**19**	**108**
4:45 - 5:00		1	3	1	6		21				4		**36**	**143**
5:00 - 5:15			8		12		16		1		2		**39**	**130**
5:15 - 5:30	1		12		17		17		3		3		**53**	**182**
5:30 - 5:45			2		9		17		4		5		**37**	**155**
5:45 - 6:00	15		12	1	12		23		5		5		**73**	**186**
6:00 - 6:15	1		3		11		20		5		3		**43**	**140**
6:15-6:30 PM			1		7		18		1		2		**29**	**119**
VEH CLASS	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**		
TOTALS	80	1	97	7	395	15	194	8	35	1	43	7	**883**	**3025**
	NL		**NT**		**NR**		**SL**		**ST**		**SR**			

North East Set

	APPROACHING INTERSECTION					
	FROM THE NORTH ON GRADIN DR					
	LEFT		THROUGH		RIGHT	
6:00-6:15 AM						
6:15 - 6:30						
6:30 - 6:45	1	1	12	13		
6:45 - 7:00		1	19	11	1	
7:00 - 7:15		1	14	5		1
7:15 - 7:30			12	10		
7:30 - 7:45						
7:45 - 8:00	1	1	30	11	2	
8:00 - 8:15	1	2	25	7	1	1
8:15 - 8:30	1		8	6	1	
8:30 - 8:45			13	4		
8:45-9:00 AM	2		9	2	1	
	P	**T**	**P**	**T**	**P**	**T**
	6	6	142	69	6	2
	NL		**NT**		**NR**	

LOCATION DIAGRAM ENCLOSED (Y/N): NO

WEATHER CONDITIONS:

RECORDER(S):

COMMENTS:

VEHICLE CLASSES

P: PASSENGER VEHICLES

T: TRUCKS

Morinville Traffic Model Overview

Overview of Morinville Traffic Model

Highway 642 (Morinville)

Functional Planning Study

February 2013

Prepared for:

Morinville

Al-Terra

5307 – 47 Street, Edmonton, Alberta T6B 3T4 Phone: (780) 440-4411 Fax: (780) 440-2585

TABLE OF CONTENTS

1.0 Project Background

The Town of Morinville approached Al-Terra Engineering Ltd. to complete a functional planning study of Highway 642 through Morinville, where it is also 100 Avenue and runs through a major commercial area and the historic downtown of the town. The objective of the functional plan is to determine long term cross section and right-of-way requirements. To support the functional plan, a traffic model of the corridor was created in Microsoft Excel and Trafficware Synchro. The background, assumptions, and some of the findings of this model form the subject matter of this memorandum.

2.0 Development Horizon

This model of Morinville is based on the complete build out of the current (2012) town boundaries. This will represent a population of approximately 31,800. Based on historical data, this build out is expected to take approximately 70 years to complete.

3.0 Previous Work

This model builds on existing work. Most notable is the *2004 Transportation Plan* completed by Alliant Engineering for the Town of Morinville. The traffic zones dividing Morinville have been maintained in this model and are detailed in Exhibit 1. As well, the trip projections have been used, although they have been updated to reflect the development and planning that has taken place since 2004.

4.0 Data Gathered

To generate the traffic model, additional data was gathered, specifically about existing traffic volumes and development that has taken place or been planned since 2004.

4.1 Traffic Counts

Turning movement counts were performed by the Town of Morinville for the intersections of 107 Street, 104 Street, 102 Street, and Gradin Drive (East Junction) with 100 Avenue. These counts were 6 hours counts, covering 6:00 – 9:00 am and 3:30 – 6:30 pm, and were conducted on Wednesday, May 23 and Thursday, May 24, 2012.

These traffic movement counts were supplemented by counts for the intersections of Highway 2 & 642 (Highway 2 & 100 Avenue), Highway 642 (100 Avenue) & 100 Street in Morinville, and Highway 2 and Cardiff Road. These counts were originally completed for Alberta Transportation (AT) in 2008 and 2010 and have been projected forward to 2011 volumes based on Automated Traffic Recorders (ATR) nearby.

These two data sets were used to generate a model for existing traffic along the 100 Avenue corridor. For the AM peak hour, the AT counts were found to about 25% higher than the counts performed by the Town. To balance the corridor, the AT volumes were lowered to match the nearby Town counts, and then all volumes along the corridor were increased by 10%. For the PM peak hour, the volumes from the two sources could be balanced 'normally.'

Existing traffic volumes along 100 Avenue are noted in Exhibit 2 and along select arterials are noted in Exhibit 3.

4.2 Post-2004 Development

The years since 2004 have seen significant growth in Morinville; the population of the town has increased by 2,000, or 31%, since 2001. Several zone development percentages were updated. As well, the population targets for several zones were updated based on filed Area Structure Plans (ASP's). An average of 2.86 people per household was assumed, based on the most recent census.

The values updated, in particular, were:

- Zone 5 is assumed to have 1,102 households at full build-out,
- Zone 11 is assumed to have 461 households at full build-out,
- Zone 12 is assumed to have 1,204 households at full build-out,
- Zone 14 is assumed to have no residential development,
- Zone 19 is assumed to have 1,368 households at full-build-out,
- Zone 11 is assumed not to have a school,
- Zone 4 is assumed to be 66% built-out in regards to residential trips in 2012,
- Zone 5 is assumed to be 65% built-out in 2012,
- Zone 6 is assumed to be 100% built-out in regards to residential trips in 2012,
- Zones 14 & 15 are assumed to be 33% built-out in 2012,
- Zone 16 is assumed to be fully built-out in 2012, and
- Zone 19 is assumed to be 33% built-out in regards to residential and 'other' trips in 2012.

Zone boundaries are detailed in Exhibit 1.

With the updated number of households, the population of Morinville at full build-out is assumed to be about 31,800.

5.0 Traffic Generation

Traffic generation rates were based on a number of sources. The *2004 Transportation Plan* provides for daily traffic generation rates of five groups of traffic generators – residential, schools, commercial, industrial, and other. Except for residential and other, these volumes were converted to peak hour volumes by comparing ITE's daily generation rates to peak hour generation rates, and thus determining a "k factor." (K factor is the proportion of daily traffic represented by the peak hour volumes.) The proportion of entering versus exiting traffic was also based on the ITE Land Use code data. The ITE land use codes used in this conversion were:

- School – ITE Land Use Code 520: Elementary School
- Commercial – ITE Land Use Code 820: Shopping Center
- Industrial – ITE Land Use Code 110: General Light Industrial.

For 'Other' traffic, a k value of 0.10 was assumed with 50% of traffic entering in both AM and PM peak hours.

For residential traffic, traffic generation rates were based on the traffic counts conducted at 107 Street, 104 Street, and Grandin Drive (East Junction) and the number of houses assumed to exit through these roads. **Table 1** details the observed traffic generation rates. Traffic generation rates of 1.02 trips/house with 42% entering was used for the AM Peak Hour and 0.90 trips/house with 54% entering for the PM Peak Hour. The ITE average traffic generation rates for Single Family Housing (Land Use Code 210) is also detailed in **Table 1**. ITE rates were lower during the AM peak and higher during the PM peak than the traffic generation numbers used.

Table 1 – Measured Residential Traffic Generation Rates

	Houses	AM				PM			
		Trips In	Trips Out	Gen. Rate	% Entering	Trips In	Trips Out	Gen. Rate	% Entering
South on 107 Street and 104 Street	228	108	182	1.27	37%	131	164	1.29	44%
North on Grandin Drive E	370	120	228	0.94	34%	131	96	0.61	58%
South on Grandin Drive E	350	178	154	0.95	54%	166	110	0.79	60%
Rates Used				***1.02***	***42%***			***0.90***	***54%***
ITE Average Rate				0.75	25%			1.01	63%

Traffic generation rates were only applied to future development; future traffic volumes are the combination of existing traffic volumes plus the volumes from projected future development.

6.0 Traffic Distribution

Traffic distribution was calculated on a percentage basis from each zone for additional traffic generated. Overall, the traffic pattern was designed to approximate the existing traffic split. Overall, across all exits from Morinville:

- 13% of traffic is assumed internal to the zone,
- 13% of traffic is assumed to exit to the north,
- 9% of traffic is assumed to exit to the east,
- 57% of traffic is assumed to exit to the south, and
- 8% of traffic is assumed to exit to the west.

The specific distribution from each zone to each exit vector is noted in **Table 2**.

For the traffic from each zone accessing 100 Avenue, the split among crossroads is noted in **Table 3**. Note that this only covers traffic that is routed via 100 Avenue. Traffic exiting from Morinville is summarized in Exhibit 4 by exit.

7.0 Mode Choice

All trips were assumed to be made in private automobile. At the present time, there is no known city bus, rail transport, or other regional public transit available in Morinville, and none are forecasted to be implemented. No adjustments have been made for car passenger rates as all traffic generation rates used are in the number of vehicle trips generated (rather than in passengers generated).

If the downtown is densified and an emphasis is placed on pedestrians, it is possible that pedestrian trips would increase while decreasing automotive trips. However, no basis for forecasting this effect is available, and so it has not been included in the model.

8.0 Route Assignment

Based on the distribution noted in **Table 2**, and the split among crossroads noted in **Table 3**, trips were assigned from the zones in Morinville to the outside of Morinville. These numbers are totaled and form the basis of the traffic model.

9.0 Additional Corridor Traffic

Highway 642 is continuous with 100 Avenue through Morinville and continues to the east to Highway 28 and to the west to Highway 44 and beyond. Recognizing that some traffic on 100 Avenue is highway corridor through traffic, this volume was calculated and included in the model. Based on assumed existing corridor through volumes of 1500 vehicles/day (based on traffic counts at Highways 28 and 642 and Highways 44 & 642), this volumes is grown at 2.5% per year (linear growth) for 70 years, assumed to have a k factor of 0.10 and to be evenly split between the two directions. This results in an additional 131 vehicles per hour per direction along the length of the corridor through Morinville.

10.0 Corridor Operations at 50% Build Out

Traffic volumes for 50% build out were determined by taking the existing (2012) traffic volumes and adding 50% of the additional corridor and development traffic assumed at full build-out. It is anticipated that this would be an approximately 35 year horizon, based on current growth rates.

The corridor was modeled using Synchro 8 and SimTraffic 8, assuming no geometric improvements. The only improvement assumed were that East Boundary Road would be paved, and thus considered a possible route for Morinville traffic (the road is currently a two lane rural-standard gravel road). Signal timing at 100 Street and 100 Avenue was also optimized.

During the AM peak assuming no geometric improvements, 95th percentile queues may be a concern for the southbound offramp from Highway 2, north and southbound traffic on 107 Street, and northbound traffic on 100 Street. Storage bays for east and westbound left turning traffic at 100 Street are also shorter than the 95th percentile queue lengths. Delays for crossroad traffic trying to access 100 Avenue are a concern for traffic from both north and southbound Highway 2 offramps, north and southbound traffic on 107 Street, northbound traffic at Grandin Drive (East Junction), and north and southbound traffic on East Boundary Road.

During the PM peak assuming no geometric improvements, 95th percentile queues become a concern for southbound traffic on 107 Street and northbound traffic on 100 Street. Storage bays for east and westbound left turning traffic at 100 Street are also shorter that the 95th percentile queue lengths. Delays for crossroad traffic trying to access 100 Avenue are a concern for traffic from both north and southbound Highway 2 offramps, north and southbound traffic on 107 Street, southbound traffic on 105 Street, north and southbound traffic on 104 Street, northbound traffic on 102 Street, and northbound traffic at Grandin Drive (East Junction).

Traffic volumes along 100 Avenue at 50% build out are noted in Exhibit 5 and along select arterials are noted in Exhibit 6.

11.0 Corridor Operations at Morinville Full Build Out

The corridor was modeled using Synchro 8 and SimTraffic 8, assuming no geometric improvements. The only improvement assumed were that East Boundary Road would be paved, and thus considered a possible route for Morinville traffic (the road is currently a two lane rural-standard gravel road). Signal timing at 100 Street and 100 Avenue was also optimized.

Overall, the traffic along the corridor itself moved reasonable well. During the AM peak, several crossroads were failing to allow traffic to access 100 Avenue. Of particular concern is the Highway 2 southbound exit, 107 Street (both north and south), 100 Street (both north and south), and East Boundary Road (both north and south). Also, the queuing from eastbound left turning traffic at 100 Street (i.e. from 100 Avenue eastbound to 100 Street northbound) is significant and likely to affect corridor operations. During the PM peak, significant queues of eastbound left turning traffic were observed at 100 Street that would affect corridor operations. Several cross streets are also failing to allow traffic onto 100 Avenue. The crossroads of most concern are at the Highway 2 interchange (both of the exit ramps), 107 Street (both north and south), 100 Street (both north and south), and East Boundary Road (practically south of 100 Avenue).

Traffic volumes along 100 Avenue at full build out are noted in Exhibit 7 and along select arterials are noted in Exhibit 8.

12.0 Arterial Road Operations

With traffic generation and distribution already addressed, it was decided to use the data from this study to estimate daily volumes (AADT) on select major arterials at 50% Build Out and Full Build Out. Volumes are provided at the proposed new “North Arterial” and 100 Street, North Arterial and East Boundary Road, East Boundary Road at the CN Railway crossing, East Boundary Road and Cardiff Road, and Cardiff Road and 100 Street. Existing background traffic along East Boundary Road as well as 100 Street at the North Arterial was assumed to be minimal, so a value of 100 vehicles/day was used. Existing background traffic volumes at 100 Street and Cardiff Road was based on data that had been collected for the study for the proposed interchange at Cardiff Road and Highway 2. The background volume east of 100 Street on Cardiff Road was assumed to carry through past East Boundary Road. The background volumes were grown linearly at 2.5% per year (except for the traffic to the west and north of 100 Street and Cardiff Road). The additional developments were then added to this to get the total expected AADT on these roads. The results are noted in **Table 4**.

Arterial traffic volumes for existing conditions are noted in Exhibit 3, for 50% build out in Exhibit 6, and for full build out in Exhibit 8.

13.0 Further Study

Although this study identifies intersections of concern, potential solutions will need to be developed at a future date. Both traffic signals and roundabouts have been suggested as possible intersection improvements to improve operations; however, right of way availability will factor heavily in selecting the most appropriate option.

This study also does not significantly consider the effects of the further development of Cardiff or other possible regional developments.

As well, as further information regarding development proposed for Morinville become available, this model should be reviewed and updated as appropriate to ensure that the model is reflective of the latest planning for the town.

Table 2 – Traffic Distribution

	North, via Hwy 2	North, via 100 Street	North, via East Boundary Road	North, via East Boundary Road, (from the south)	North, elsewhere	East, via Hwy 642	East, via Hwy 642, via East Boundary Road (north)	East, via Hwy 642, via East Boundary Road (south)	South, via Hwy 2	South, via 100 St	South, via East Boundary Road	South, elsewhere	South, via East Boundary Road, via elsewhere in the north	West, via Hwy 642	Internal (to Zone)
Zone 1	21%				11%	1%	3%		33%	3%			3%	11%	14%
Zone 2	9%				10%	1%	4%		35%	5%			10%	10%	14%
Zone 3	7%				13%	1%	13%		10%	2%	4%		30%	5%	14%
Zone 4	11%				9%	1%	1%		37%	16%				11%	14%
Zone 5	9%				11%	8%			16%	16%	16%			11%	14%
Zone 6	2%				13%	5%	5%		4%	3%	25%		21%	7%	14%
Zone 7	9%	2%	2%		8%	4%			30%	14%				10%	20%
Zone 8	14%					1%			46%	3%				23%	13%
Zone 9	11%	4%	2%			9%			13%	2%		31%		11%	16%
Zone 10	2%	1%	8%			18%			5%	2%	11%	33%		5%	14%
Zone 11	2%	2%		5%				20%				56%		4%	10%
Zone 12	2%	1%		3%				9%				65%		9%	10%
Zone 13	2%	1%		2%				16%				63%		6%	10%
Zone 14	1%	1%		1%				6%				75%		6%	10%
Zone 15	1%	1%		1%				6%				75%		6%	10%
Zone 16	1%	1%		1%				6%				75%		6%	10%
Zone 17	1%	1%		1%				14%				68%		6%	10%
Zone 18		2%		1%				3%				83%			10%
Zone 19		1%		5%				6%				79%			10%

Table 3 – Zone Exit Routes

	107 St - North	107 St - South	106 St - North	105 St - North	104 St - North	104 St - South	103 St - North	103 St - South	102 St - North	102 St - South	101 St - South	100A St - South	100 St - North	100 St - South	99 St - North	99 St - South	99A Ave - South	97 St - South	Grandin Drive W - South	Grandin Drive E - North	Grandin Drive E - South	87 St - North	E Boundary Road - North	E Boundary Road - South
Zone 1	93%		1%	1%	5%																			
Zone 2	40%												50%							10%				
Zone 3	10%												10%							30%			50%	
Zone 4							15%		15%				70%											
Zone 5													90%							10%				
Zone 6																				70%		25%	5%	
Zone 7	12%		12%	12%	12%		12%		12%				16%		12%									
Zone 8		50%				50%																		
Zone 9								5%		15%	12%	3%		28%		7%	3%	12%	15%					
Zone 10																			15%		85%			
Zone 11																			85%		10%			5%
Zone 12														100%										
Zone 13														100%										
Zone 14														100%										
Zone 15														100%										
Zone 16														100%										
Zone 17														60%										40%
Zone 18														100%										
Zone 19														75%										25%

Table 4 – AADT on Select Arterial Roads at 50% and Full Build Out

AADT		Background (2012)	50% Build Out	Full Build Out
100 St & North Arterial	N	100	1,800	3,500
	E	0	2,800	5,600
	S	100	4,100	8,100
	W	0	1,800	3,700
East Boundary Rd & North Arterial	N	100	1,600	3,000
	S	100	3,500	6,900
	W	0	2,800	5,500
East Boundary Rd at CN Railway	N	100	7,000	13,900
	S	100	7,000	13,900
East Boundary Rd & Cardiff Rd	N	100	7,300	14,600
	E	4,030	7,600	11,100
	W	4,030	14,700	25,400
100 St & Cardiff Rd	N	6,560	18,100	29,600
	E	4,030	16,000	27,900
	W	7,870	31,300	54,800

DATE: APRIL 2013			HIGHWAY 642 MORINVILLE FUNCTIONAL PLANNING STUDY TRANSPORTATION MODEL ZONES				Morinville AL-Terra
DATE	REVISIONS	BY	DWG. NO.	SHEET	DIST. NO.	PROJECT NO.	NTS
				1 OF 1	642:04	7993	

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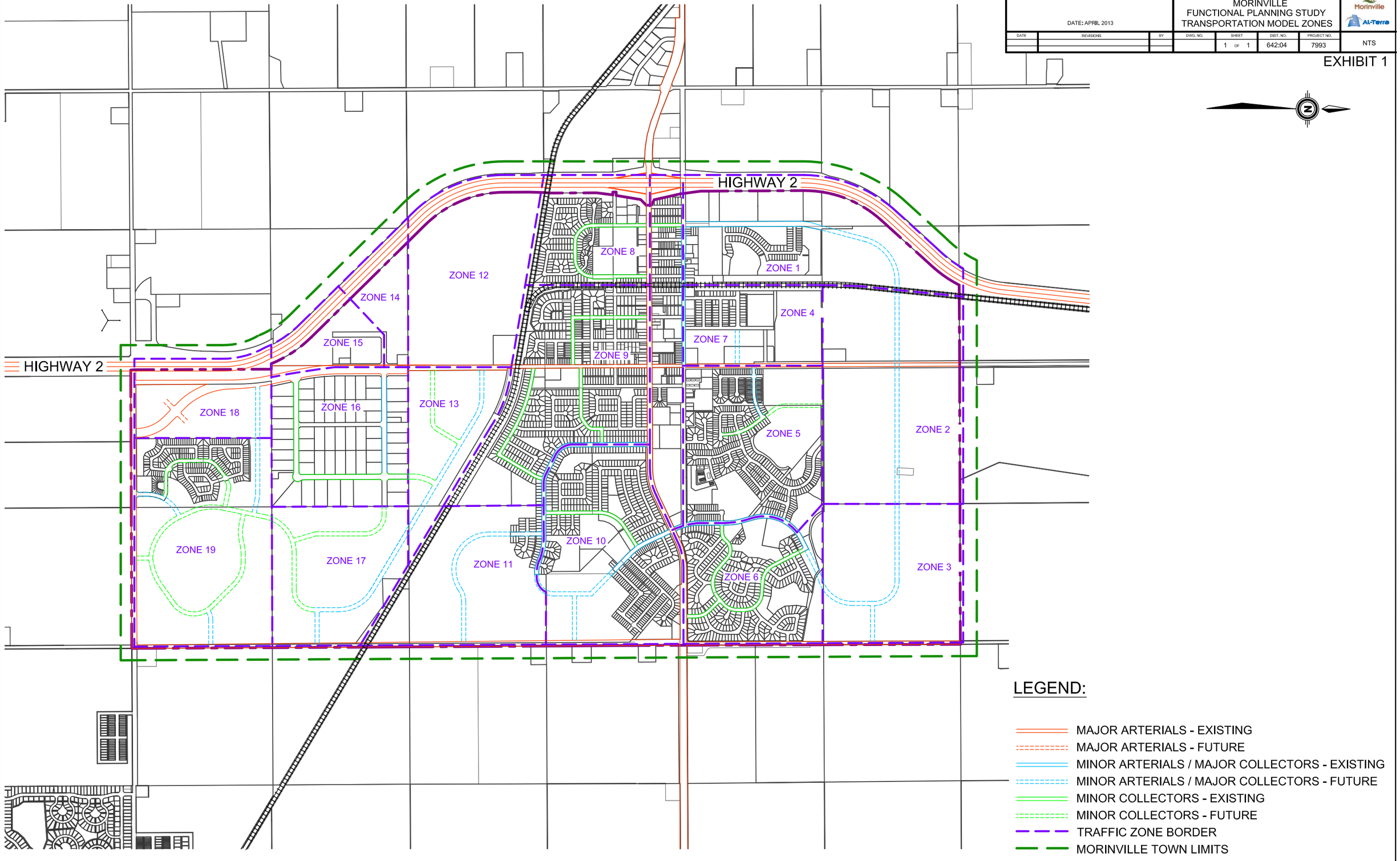

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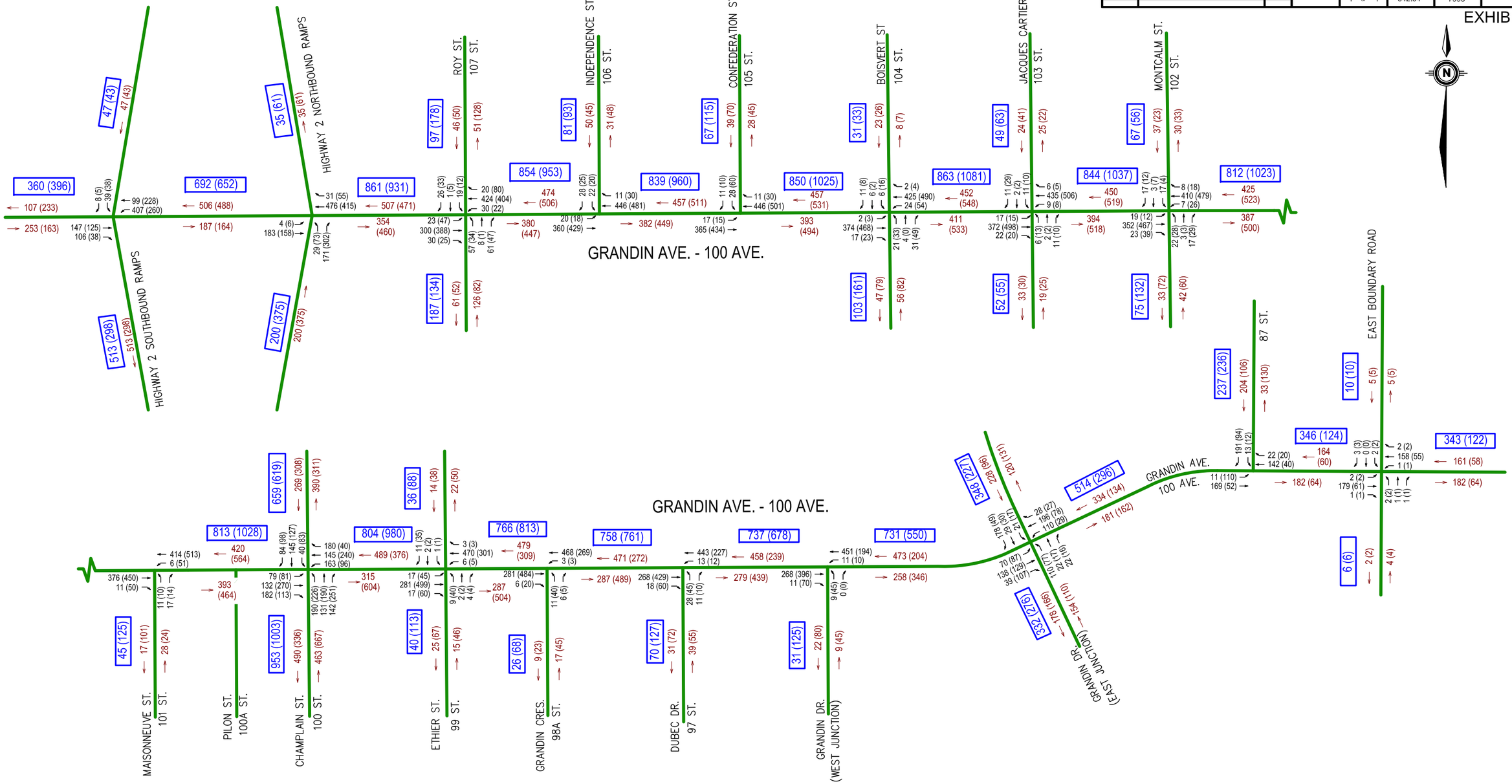

LEGEND:

PEAK HOUR TURNING VOLUME - AM(vph) (PM(vph)) - 106 (38)

PEAK HOUR DIRECTIONAL TURNING VOLUME - AM(vph) (PM(vph)) - 457 (531)

TOTAL (BOTH DIRECTIONS) VOLUME - AM(vph) (PM(vph)) - 850 (1025)

DATE: APRIL 2013

DATE	REVISIONS	BY

HIGHWAY 642
MORINVILLE
FUNCTIONAL PLANNING STUDY
TRAFFIC VOLUME ON SELECT ARTERIAL ROADS - EXISTING

DWG. NO.	SHEET	DIST. NO.	PROJECT NO.
	1 OF 1	642:04	7993

Morinville

AL-Terra

NTS

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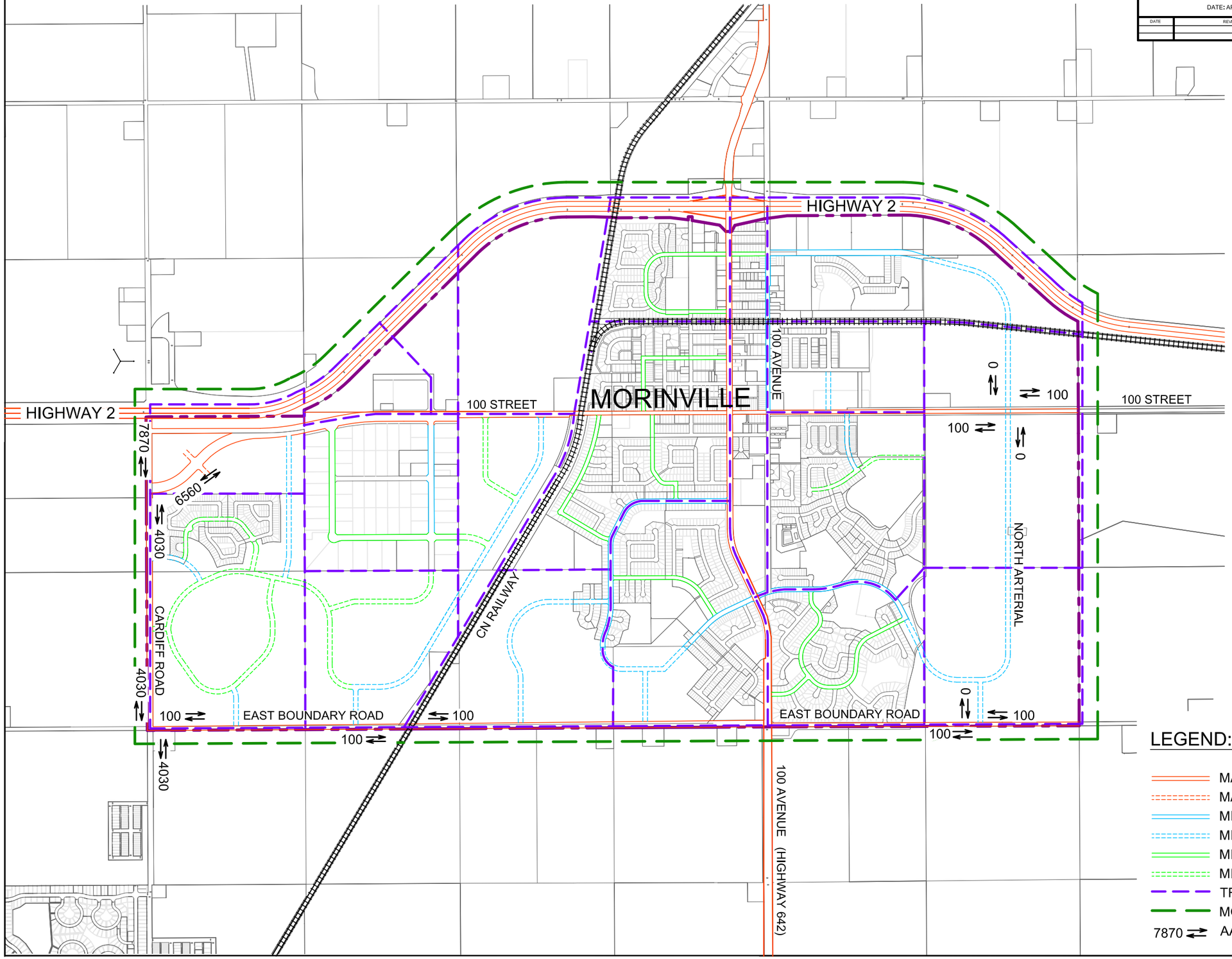

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DATE	REVISIONS	BY	DWG. NO.	SHEET / DIST. NO. / PROJECT NO.	NTS
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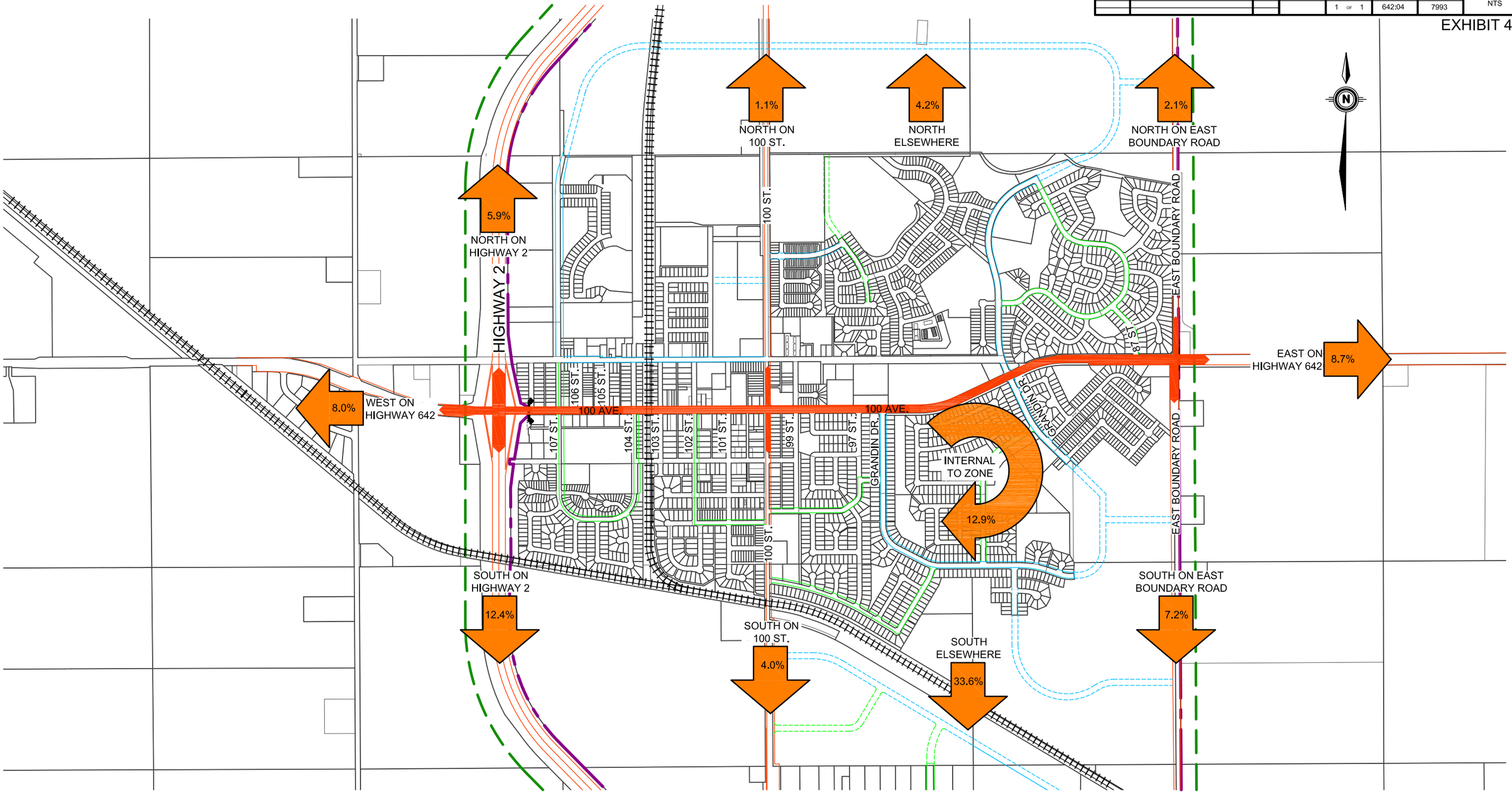
EXHIBIT 4



LEGEND:

- MAJOR ARTERIALS - EXISTING
- MAJOR ARTERIALS - FUTURE
- MINOR ARTERIALS / MAJOR COLLECTORS - EXISTING
- MINOR ARTERIALS / MAJOR COLLECTORS - FUTURE
- MINOR COLLECTORS - EXISTING
- MINOR COLLECTORS - FUTURE
- MORINVILLE TOWN LIMITS
- PERCENTAGE OF TRAFFIC USING EXIT ROUTE

DATE: APRIL 2013

HIGHWAY 642
MORINVILLE
FUNCTIONAL PLANNING STUDY
TRANSPORTION MODEL ZONES

DATE	REVISIONS	BY

DWG. NO.	SHEET	DIST. NO.	PROJECT NO.
	1 OF 1	642:04	7993

NTS

EXHIBIT 4.1

HIGHWAY 2

HIGHWAY 2

ZONE 1
ZONE 2
ZONE 3
ZONE 4
ZONE 5
ZONE 6
ZONE 7
ZONE 8
ZONE 9
ZONE 10
ZONE 11
ZONE 12
ZONE 13
ZONE 14
ZONE 15
ZONE 16
ZONE 17
ZONE 18
ZONE 19

LEGEND:

- MAJOR ARTERIALS - EXISTING
- MAJOR ARTERIALS - FUTURE
- MINOR ARTERIALS / MAJOR COLLECTORS - EXISTING
- MINOR ARTERIALS / MAJOR COLLECTORS - FUTURE
- MINOR COLLECTORS - EXISTING
- MINOR COLLECTORS - FUTURE
- TRAFFIC ZONE BORDER
- MORINVILLE TOWN LIMITS

DATE: APRIL 2013			HIGHWAY 642 MORINVILLE FUNCTIONAL PLANNING STUDY 100th AVENUE TRAFFIC VOLUMES 50% BUILD OUT				Morinville AL-Terra
DATE	REVISIONS	BY	DWG. NO.	SHEET	DIST. NO.	PROJECT NO.	NTS
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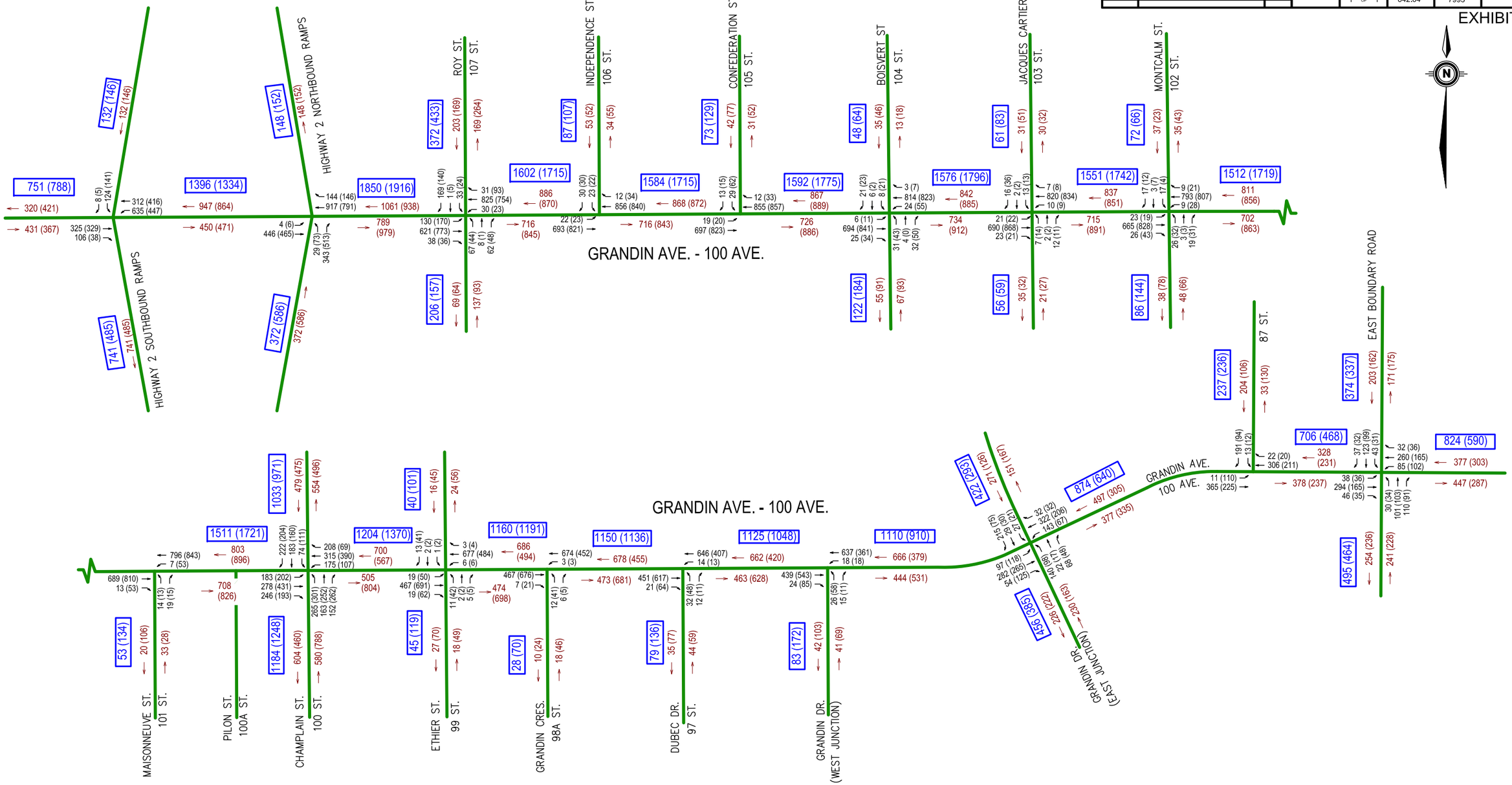

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PEAK HOUR TURNING VOLUME - AM(vph) (PM(vph)) - 106 (38)

PEAK HOUR DIRECTIONAL TURNING VOLUME - AM(vph) (PM(vph)) - 457 (531)

TOTAL (BOTH DIRECTIONS) VOLUME - AM(vph) (PM(vph)) - 850 (1025)

DATE: APRIL 2013

DATE	REVISIONS	BY

HIGHWAY 642
MORINVILLE
FUNCTIONAL PLANNING STUDY
TRAFFIC VOLUME ON SELECT
ARTERIAL ROADS - 50% BUILD OUT

DWG. NO.	SHEET	DIST. NO.	PROJECT NO.
	1 OF 1	642:04	7993

NTS

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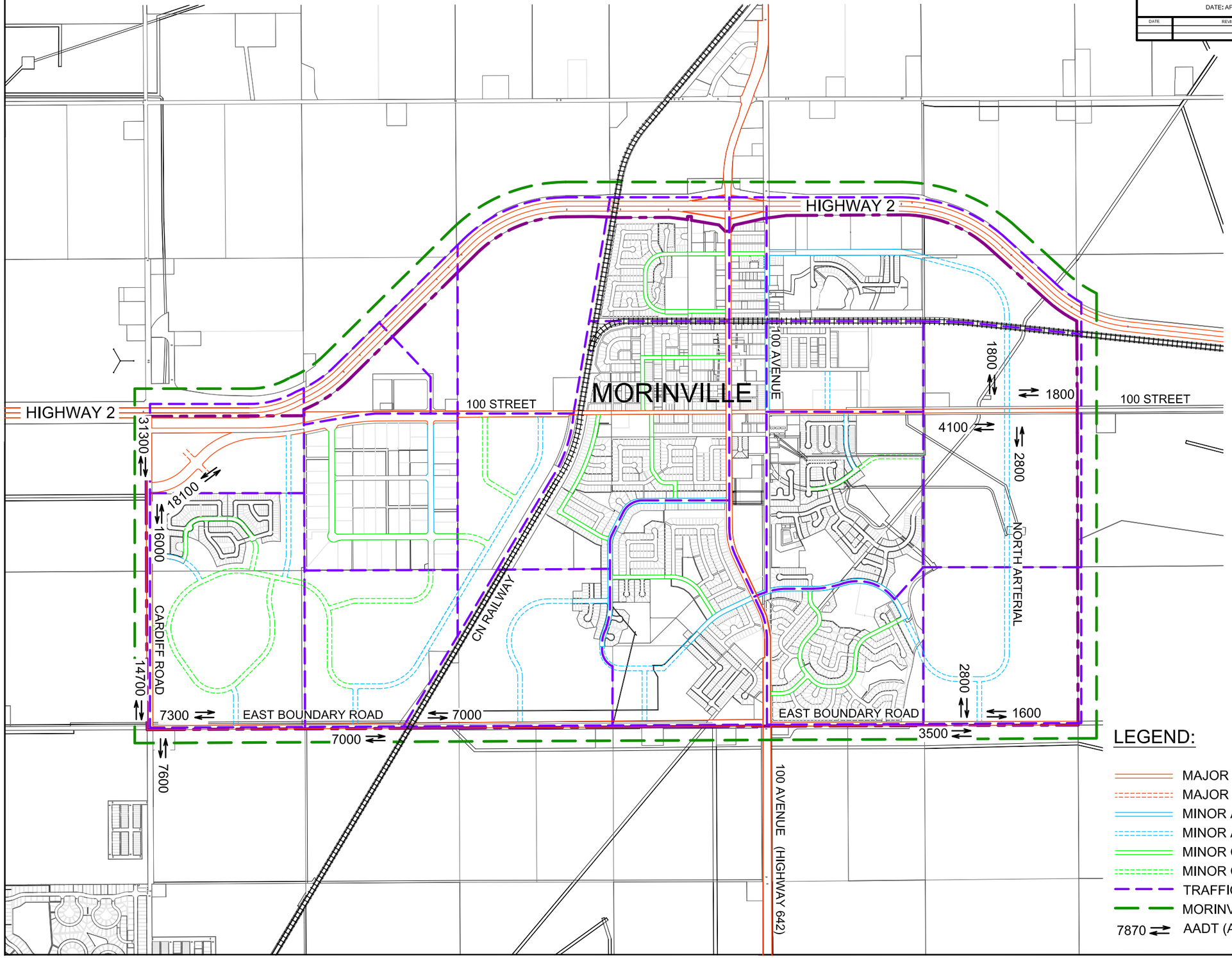

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DATE	REVISIONS	BY	DWG. NO.	SHEET	DIST. NO.	PROJECT NO.	NTS
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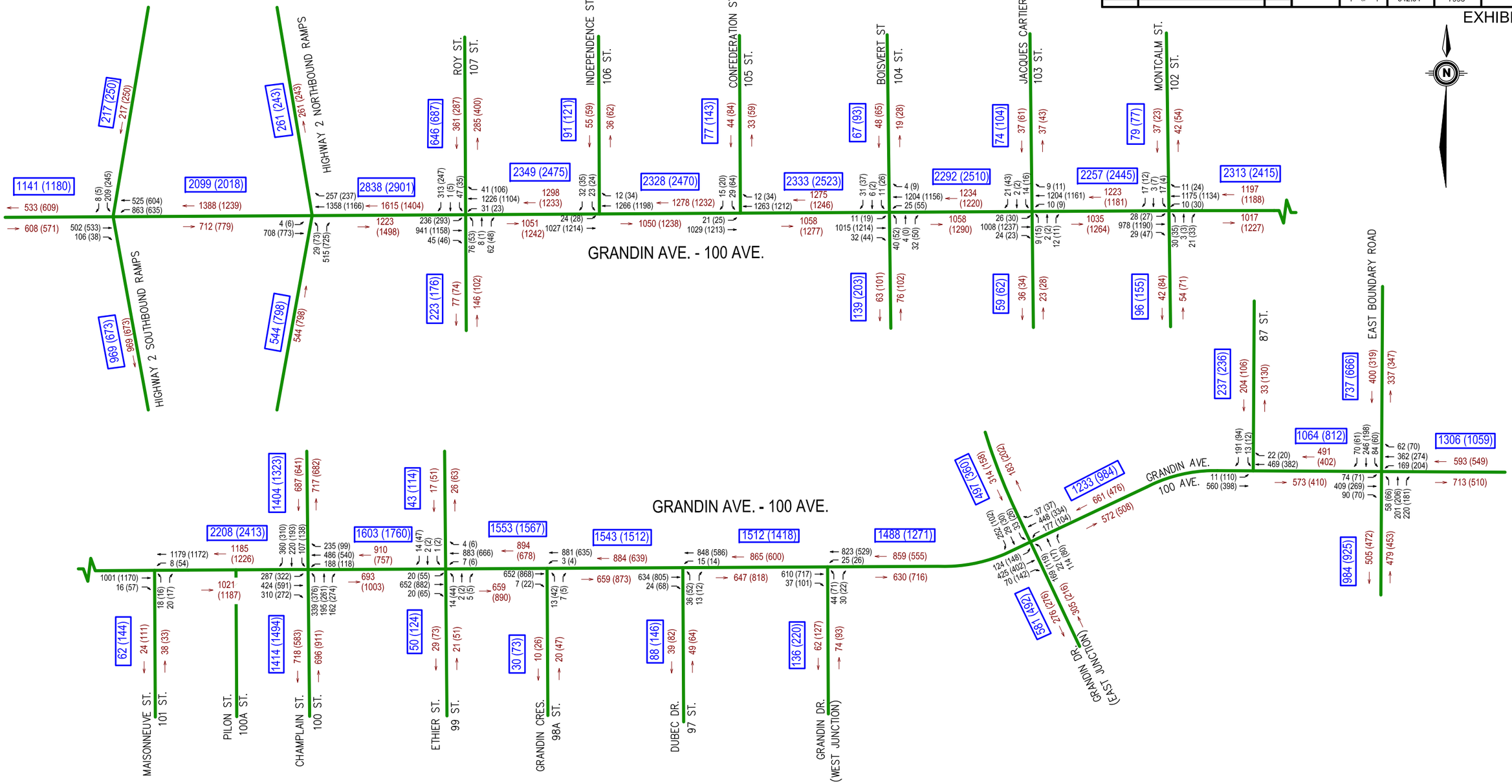

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PEAK HOUR TURNING VOLUME - AM(vph) (PM(vph)) - 106 (38)

PEAK HOUR DIRECTIONAL TURNING VOLUME - AM(vph) (PM(vph)) - 457 (531)

TOTAL (BOTH DIRECTIONS) VOLUME - AM(vph) (PM(vph)) - 850 (1025)

DATE: APRIL 2013

DATE	REVISIONS	BY

HIGHWAY 642
MORINVILLE
FUNCTIONAL PLANNING STUDY
TRAFFIC VOLUME ON SELECT ARTERIAL ROADS - FULL BUILD OUT

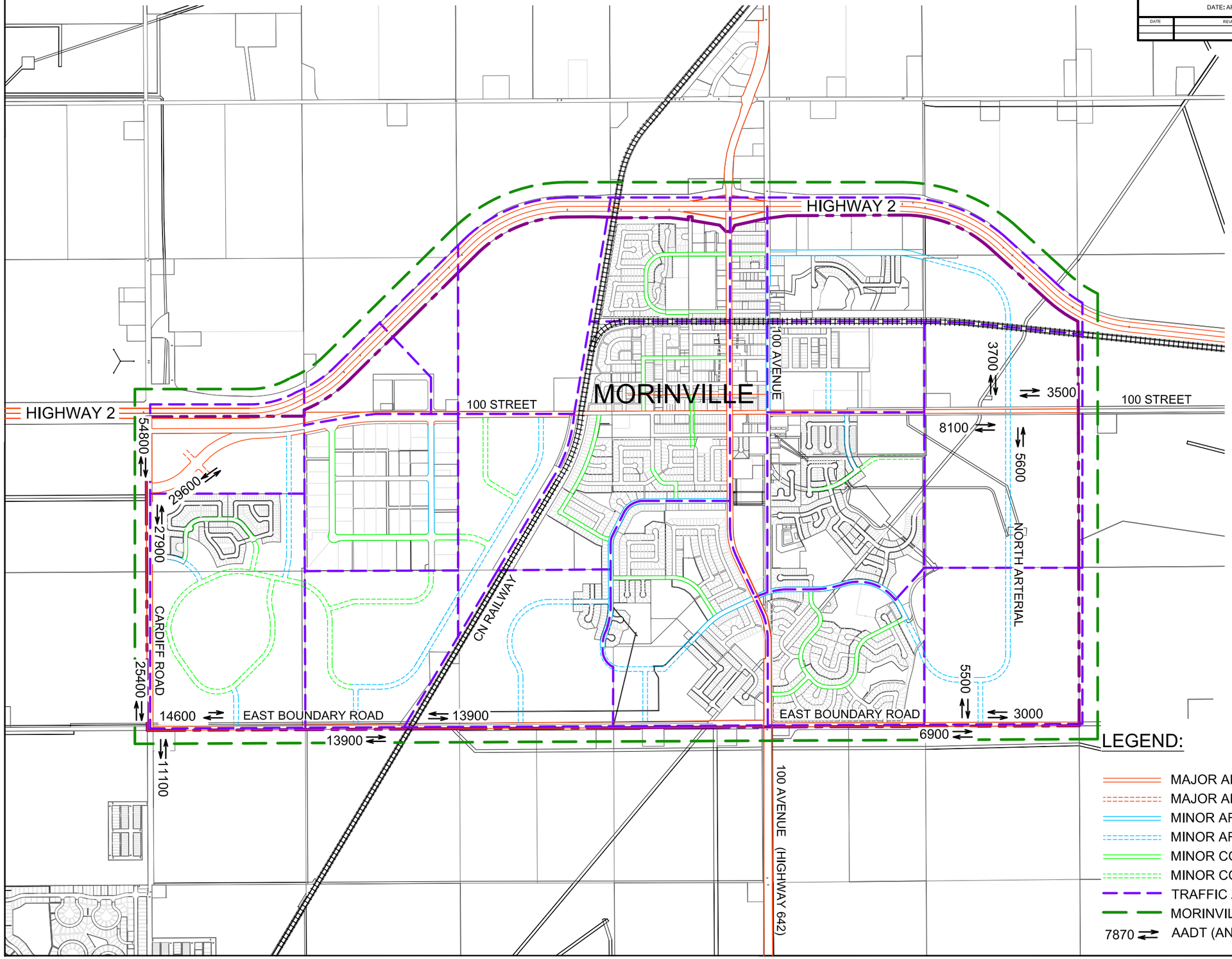
DWG. NO.	SHEET	DIST. NO.	PROJECT NO.
	1 OF 1	642:04	7993

Morinville

AL-Terra

NTS

EXHIBIT 8



Synchro Reports

Existing Road Network – Existing Traffic Operations

50% Build Out – 100 Avenue Roundabout Option

100% Build Out – 100 Avenue Roundabout Option

100% Build Out – Conventional Intersection Option

Existing Road Network

Existing Traffic Operations

Intersection	
Intersection Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	134	96	370	90	0	0	0	0	35	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0.0		100.0	0.0		0.0	0.0		0.0	100.0		0.0
Median Width		3.6			3.6			0.0			0.0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	160	115	442	108	0	0	0	0	42	0	8
Number of Lanes	0	2	0	1	1	0	0	0	0	0	1	1

Major/Minor	Major 1			Major 2						Minor 2		
Conflicting Flow All	108	0	0	275	0	0				1072	1267	108
Stage 1	-	-	-	-	-	-				992	992	-
Stage 2	-	-	-	-	-	-				80	275	-
Follow-up Headway	2.218	-	-	2.22	-	-				3.519	4.019	3.319
Pot Capacity-1 Maneuver	1483	-	-	1285	-	-				229	168	945
Stage 1	-	-	-	-	-	-				358	323	-
Stage 2	-	-	-	-	-	-				934	682	-
Time blocked-Platoon, %	0	-	-	0	-	-				0	0	0
Mov Capacity-1 Maneuver	1483	-	-	1285	-	-				150	0	945
Mov Capacity-2 Maneuver	-	-	-	-	-	-				150	0	-
Stage 1	-	-	-	-	-	-				235	0	-
Stage 2	-	-	-	-	-	-				934	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	7.5	33.4
HCM LOS	-	-	D

Minor Lane / Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Cap, veh/h	1483	-	-	1285	-	-	158	945
HCM Control Delay, s	0	-	-	9.265	-	-	36.5	8.8
HCM Lane V/C Ratio	-	-	-	0.34	-	-	0.28	0.01
HCM Lane LOS	A	-	-	A	-	-	E	A
HCM 95th-tile Q, veh	0.0	-	-	1.6	-	-	1.1	0.0

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	4	166	0	0	433	28	26	0	155	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0.0		0.0	0.0		0.0	100.0		0.0	0.0		0.0
Median Width		0.0			0.0			0.0			0.0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	198	0	0	518	33	31	0	185	0	0	0
Number of Lanes	0	2	0	0	1	1	0	1	1	0	0	0

Major/Minor	Major 1			Major 2			Minor 1		
Conflicting Flow All	518	0	0	198	0	0	726	726	99
Stage 1	-	-	-	-	-	-	208	208	-
Stage 2	-	-	-	-	-	-	518	518	-
Follow-up Headway	2.218	-	-	2.22	-	-	3.519	4.019	3.319
Pot Capacity-1 Maneuver	1048	-	-	1372	-	-	375	350	938
Stage 1	-	-	-	-	-	-	807	729	-
Stage 2	-	-	-	-	-	-	597	532	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0
Mov Capacity-1 Maneuver	1048	-	-	1372	-	-	373	0	938
Mov Capacity-2 Maneuver	-	-	-	-	-	-	373	0	-
Stage 1	-	-	-	-	-	-	803	0	-
Stage 2	-	-	-	-	-	-	597	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	10.4
HCM LOS	-	-	B

Minor Lane / Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR
Cap, veh/h	622	938	1048	-	-	1372	-	-
HCM Control Delay, s	11.8	9.4	8.451	0	-	0	-	-
HCM Lane V/C Ratio	0.15	0.13	0.01	-	-	-	-	-
HCM Lane LOS	B	A	A	A	-	A	-	-
HCM 95th-tile Q, veh	0.5	0.5	0.0	-	-	0.0	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	21	273	27	27	385	18	52	7	55	17	1	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Median Width		0.0			0.0			0.0			0.0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	326	32	32	460	22	62	8	66	20	1	29
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	482	0	0	359	0	0	688	939	179	754	945	241
Stage 1	-	-	-	-	-	-	393	393	-	536	536	-
Stage 2	-	-	-	-	-	-	295	546	-	218	409	-
Follow-up Headway	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Capacity-1 Maneuver	1077	-	-	1196	-	-	333	263	833	298	260	760
Stage 1	-	-	-	-	-	-	603	604	-	496	522	-
Stage 2	-	-	-	-	-	-	689	516	-	764	594	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1077	-	-	1196	-	-	303	246	833	254	243	760
Mov Capacity-2 Maneuver	-	-	-	-	-	-	303	246	-	254	243	-
Stage 1	-	-	-	-	-	-	586	586	-	482	503	-
Stage 2	-	-	-	-	-	-	637	497	-	674	577	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.6	17.3	15
HCM LOS	-	-	C	C

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	428	1077	-	-	1196	-	-	409
HCM Control Delay, s	17.3	8.422	0.1	-	8.094	0.1	-	15
HCM Lane V/C Ratio	0.32	0.02	-	-	0.03	-	-	0.12
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th-tile Q, veh	1.4	0.1	-	-	0.1	-	-	0.4

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	18	327	405	10	20	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length	0.0			0.0	0.0	0.0
Median Width		0.0	0.0		3.6	
Grade, %		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	391	484	12	24	30
Number of Lanes	0	2	2	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow All	496	0	-	0	729	248
Stage 1	-	-	-	-	490	-
Stage 2	-	-	-	-	239	-
Follow-up Headway	2.22	-	-	-	3.52	3.32
Pot Capacity-1 Maneuver	1064	-	-	-	358	752
Stage 1	-	-	-	-	581	-
Stage 2	-	-	-	-	778	-
Time blocked-Platoon, %	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1064	-	-	-	349	752
Mov Capacity-2 Maneuver	-	-	-	-	349	-
Stage 1	-	-	-	-	581	-
Stage 2	-	-	-	-	758	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	13.1
HCM LOS	-	-	B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Cap, veh/h	1064	-	-	-	497
HCM Control Delay, s	8.453	0.1	-	-	13.1
HCM Lane V/C Ratio	0.02	-	-	-	0.11
HCM Lane LOS	A	A	-	-	B
HCM 95th-tile Q, veh	0.1	-	-	-	0.4

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	15	332	405	10	25	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length	0.0			0.0	0.0	0.0
Median Width		0.0	0.0		3.6	
Grade, %		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	397	484	12	30	12
Number of Lanes	0	2	2	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow All	496	0	-	0	724	248
Stage 1	-	-	-	-	490	-
Stage 2	-	-	-	-	234	-
Follow-up Headway	2.22	-	-	-	3.52	3.32
Pot Capacity-1 Maneuver	1064	-	-	-	361	752
Stage 1	-	-	-	-	581	-
Stage 2	-	-	-	-	783	-
Time blocked-Platoon, %	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1064	-	-	-	353	752
Mov Capacity-2 Maneuver	-	-	-	-	353	-
Stage 1	-	-	-	-	581	-
Stage 2	-	-	-	-	766	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	14.6
HCM LOS	-	-	B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Cap, veh/h	1064	-	-	-	416
HCM Control Delay, s	8.441	0.1	-	-	14.6
HCM Lane V/C Ratio	0.02	-	-	-	0.10
HCM Lane LOS	A	A	-	-	B
HCM 95th-tile Q, veh	0.1	-	-	-	0.3

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	2	340	15	22	386	2	19	4	28	5	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Median Width		0.0			0.0			0.0			0.0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	407	18	26	462	2	23	5	33	6	6	12
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	464	0	0	424	0	0	706	937	212	725	944	232
Stage 1	-	-	-	-	-	-	420	420	-	515	515	-
Stage 2	-	-	-	-	-	-	286	517	-	210	429	-
Follow-up Headway	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Capacity-1 Maneuver	1094	-	-	1132	-	-	323	263	793	313	261	770
Stage 1	-	-	-	-	-	-	581	588	-	511	533	-
Stage 2	-	-	-	-	-	-	697	532	-	773	582	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1094	-	-	1132	-	-	304	254	793	288	252	770
Mov Capacity-2 Maneuver	-	-	-	-	-	-	304	254	-	288	252	-
Stage 1	-	-	-	-	-	-	580	587	-	510	516	-
Stage 2	-	-	-	-	-	-	657	516	-	733	581	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.5	14.3	14.6
HCM LOS	-	-	B	B

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	449	1094	-	-	1132	-	-	398
HCM Control Delay, s	14.3	8.298	0	-	8.256	0.1	-	14.6
HCM Lane V/C Ratio	0.14	0.00	-	-	0.02	-	-	0.06
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th-tile Q, veh	0.5	0.0	-	-	0.1	-	-	0.2

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	15	338	20	8	395	5	5	2	10	10	2	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Median Width		0.0			0.0			0.0			0.0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	404	24	10	472	6	6	2	12	12	2	12
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	478	0	0	428	0	0	708	949	214	733	958	239
Stage 1	-	-	-	-	-	-	452	452	-	494	494	-
Stage 2	-	-	-	-	-	-	256	497	-	239	464	-
Follow-up Headway	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Capacity-1 Maneuver	1081	-	-	1128	-	-	322	259	791	309	256	762
Stage 1	-	-	-	-	-	-	557	569	-	526	545	-
Stage 2	-	-	-	-	-	-	726	543	-	743	562	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1081	-	-	1128	-	-	307	250	791	294	247	762
Mov Capacity-2 Maneuver	-	-	-	-	-	-	307	250	-	294	247	-
Stage 1	-	-	-	-	-	-	545	556	-	514	538	-
Stage 2	-	-	-	-	-	-	703	536	-	713	550	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.2	13.2	14.7
HCM LOS	-	-	B	B

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	460	1081	-	-	1128	-	-	398
HCM Control Delay, s	13.2	8.386	0.1	-	8.219	0	-	14.7
HCM Lane V/C Ratio	0.04	0.02	-	-	0.01	-	-	0.07
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th-tile Q, veh	0.1	0.1	-	-	0.0	-	-	0.2

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	11.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	17	320	21	6	373	7	20	3	15	15	3	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Median Width		0.0			0.0			0.0			0.0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	383	25	7	446	8	24	4	18	18	4	18
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow All	336	117	13	312	117	13	22	0	0	22	0	0
Stage 1	48	48	-	60	60	-	-	-	-	-	-	-
Stage 2	288	69	-	252	57	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	618	773	1067	641	773	1067	1593	-	-	1593	-	-
Stage 1	965	855	-	951	845	-	-	-	-	-	-	-
Stage 2	720	837	-	752	847	-	-	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	318	753	1067	369	753	1067	1593	-	-	1593	-	-
Mov Capacity-2 Maneuver	318	753	-	369	753	-	-	-	-	-	-	-
Stage 1	951	846	-	937	832	-	-	-	-	-	-	-
Stage 2	326	824	-	398	838	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.1	12	3.8	3.3
HCM LOS	B	B	-	-

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Cap, veh/h	1593	-	-	666	780	729	761	1593	-	-
HCM Control Delay, s	7.294	0	-	12.9	11.4	12.2	11.8	7.286	0	-
HCM Lane V/C Ratio	0.01	-	-	0.32	0.28	0.32	0.30	0.01	-	-
HCM Lane LOS	A	A	-	B	B	B	B	A	A	-
HCM 95th-tile Q, veh	0.0	-	-	1.4	1.1	1.4	1.3	0.0	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	342	10	5	376	10	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length		0.0	0.0		0.0	0.0
Median Width	3.6			3.6	3.6	
Grade, %	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	409	12	6	450	12	18
Number of Lanes	2	0	0	2	1	0

Major/Minor	Major 1			Major 2		
Conflicting Flow All	0	0	421	0	652	210
Stage 1	-	-	-	-	415	-
Stage 2	-	-	-	-	237	-
Follow-up Headway	-	-	2.22	-	3.52	3.32
Pot Capacity-1 Maneuver	-	-	1135	-	401	796
Stage 1	-	-	-	-	635	-
Stage 2	-	-	-	-	780	-
Time blocked-Platoon, %	-	-	0	-	0	0
Mov Capacity-1 Maneuver	-	-	1135	-	398	796
Mov Capacity-2 Maneuver	-	-	-	-	398	-
Stage 1	-	-	-	-	635	-
Stage 2	-	-	-	-	775	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.7
HCM LOS	-	-	B

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Cap, veh/h	569	-	-	1135	-
HCM Control Delay, s	11.7	-	-	8.189	0
HCM Lane V/C Ratio	0.05	-	-	0.01	-
HCM Lane LOS	B	-	-	A	A
HCM 95th-tile Q, veh	0.2	-	-	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	72	120	165	148	132	164	173	119	129	36	132	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	15.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1770	3231	0	1770	3245	0	0	1809	1583	0	1842	1583
Flt Permitted	0.540			0.547				0.707			0.878	
Satd. Flow (perm)	1006	3231	0	1019	3245	0	0	1317	1583	0	1635	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		197			196				154			91
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		150.9			113.5			401.4			295.5	
Travel Time (s)		10.9			8.2			28.9			21.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	340	0	177	354	0	0	349	154	0	201	91
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Total Split (s)	21.0	21.0		21.0	21.0		24.0	24.0	24.0	24.0	24.0	24.0
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Act Effct Green (s)	16.0	16.0		16.0	16.0			19.0	19.0		19.0	19.0
Actuated g/C Ratio	0.36	0.36		0.36	0.36			0.42	0.42		0.42	0.42
v/c Ratio	0.24	0.27		0.49	0.28			0.63	0.20		0.29	0.13
Control Delay	12.5	5.2		17.0	5.4			16.6	2.7		10.0	3.0
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	12.5	5.2		17.0	5.4			16.6	2.7		10.0	3.0
LOS	B	A		B	A			B	A		B	A
Approach Delay		6.7			9.3			12.3			7.8	
Approach LOS		A			A			B			A	
Queue Length 50th (m)	4.8	4.0		11.0	4.4			21.2	0.0		10.2	0.0
Queue Length 95th (m)	12.7	10.6		25.7	11.3			#44.5	7.3		21.2	5.6
Internal Link Dist (m)		126.9			89.5			377.4			271.5	
Turn Bay Length (m)	30.0			15.0								
Base Capacity (vph)	357	1275		362	1280			556	757		690	720
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.24	0.27		0.49	0.28			0.63	0.20		0.29	0.13

Intersection Summary

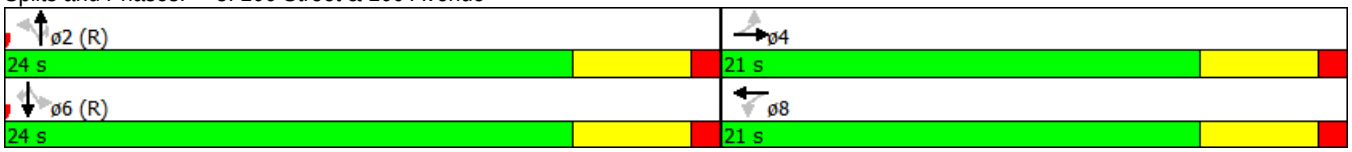
Area Type: Other
Cycle Length: 45
Actuated Cycle Length: 45
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Control Type: Pretimed
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 9.3 Intersection LOS: A

Intersection Capacity Utilization 62.4% ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: 100 Street & 100 Avenue



Intersection	
Intersection Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	15	255	15	5	427	3	8	2	4	1	2	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	25.0		0.0	15.0		0.0	0.0		0.0	0.0		0.0
Median Width		3.6			3.6			0.0			0.0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	305	18	6	511	4	10	2	5	1	2	12
Number of Lanes	1	2	0	1	2	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	514	0	0	323	0	0	618	876	161	714	883	257
Stage 1	-	-	-	-	-	-	350	350	-	524	524	-
Stage 2	-	-	-	-	-	-	268	526	-	190	359	-
Follow-up Headway	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Capacity-1 Maneuver	1048	-	-	1234	-	-	373	286	855	319	283	742
Stage 1	-	-	-	-	-	-	639	631	-	504	528	-
Stage 2	-	-	-	-	-	-	714	527	-	794	626	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1048	-	-	1234	-	-	358	280	855	310	277	742
Mov Capacity-2 Maneuver	-	-	-	-	-	-	358	280	-	310	277	-
Stage 1	-	-	-	-	-	-	628	620	-	495	525	-
Stage 2	-	-	-	-	-	-	696	524	-	773	615	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.1	14.2	11.8
HCM LOS	-	-	B	B

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	410	1048	-	-	1234	-	-	543
HCM Control Delay, s	14.2	8.495	-	-	7.932	-	-	11.8
HCM Lane V/C Ratio	0.04	0.02	-	-	0.01	-	-	0.03
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th-tile Q, veh	0.1	0.1	-	-	0.0	-	-	0.1

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	255	5	3	425	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length		0.0	40.0		0.0	0.0
Median Width	3.6			3.6	3.6	
Grade, %	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	305	6	4	508	12	6
Number of Lanes	2	0	1	2	1	0

Major/Minor	Major 1			Major 2		
Conflicting Flow All	0	0	311	0	569	155
Stage 1	-	-	-	-	308	-
Stage 2	-	-	-	-	261	-
Follow-up Headway	-	-	2.22	-	3.52	3.32
Pot Capacity-1 Maneuver	-	-	1246	-	452	863
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	759	-
Time blocked-Platoon, %	-	-	0	-	0	0
Mov Capacity-1 Maneuver	-	-	1246	-	451	863
Mov Capacity-2 Maneuver	-	-	-	-	451	-
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	757	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.9
HCM LOS	-	-	B

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Cap, veh/h	536	-	-	1246	-
HCM Control Delay, s	11.9	-	-	7.898	-
HCM Lane V/C Ratio	0.03	-	-	0.00	-
HCM Lane LOS	B	-	-	A	-
HCM 95th-tile Q, veh	0.1	-	-	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	244	16	12	403	25	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length		0.0	30.0		0.0	0.0
Median Width	3.6			3.6	3.6	
Grade, %	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	292	19	14	482	30	12
Number of Lanes	2	0	1	2	1	0

Major/Minor	Major 1			Major 2		
Conflicting Flow All	0	0	311	0	571	155
Stage 1	-	-	-	-	301	-
Stage 2	-	-	-	-	270	-
Follow-up Headway	-	-	2.22	-	3.52	3.32
Pot Capacity-1 Maneuver	-	-	1246	-	451	863
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	751	-
Time blocked-Platoon, %	-	-	0	-	0	0
Mov Capacity-1 Maneuver	-	-	1246	-	446	863
Mov Capacity-2 Maneuver	-	-	-	-	446	-
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	743	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	12.6
HCM LOS	-	-	B

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Cap, veh/h	517	-	-	1246	-
HCM Control Delay, s	12.6	-	-	7.923	-
HCM Lane V/C Ratio	0.08	-	-	0.01	-
HCM Lane LOS	B	-	-	A	-
HCM 95th-tile Q, veh	0.3	-	-	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	244	10	10	410	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length		0.0	30.0		0.0	0.0
Median Width	3.6			3.6	3.6	
Grade, %	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	292	12	12	490	6	0
Number of Lanes	2	0	1	2	1	0

Major/Minor	Major 1			Major 2		
Conflicting Flow All	0	0	304	0	567	152
Stage 1	-	-	-	-	298	-
Stage 2	-	-	-	-	269	-
Follow-up Headway	-	-	2.22	-	3.52	3.32
Pot Capacity-1 Maneuver	-	-	1254	-	454	867
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	752	-
Time blocked-Platoon, %	-	-	0	-	0	0
Mov Capacity-1 Maneuver	-	-	1254	-	450	867
Mov Capacity-2 Maneuver	-	-	-	-	450	-
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	745	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	13.1
HCM LOS	-	-	B

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Cap, veh/h	450	-	-	1254	-
HCM Control Delay, s	13.1	-	-	7.898	-
HCM Lane V/C Ratio	0.01	-	-	0.01	-
HCM Lane LOS	B	-	-	A	-
HCM 95th-tile Q, veh	0.0	-	-	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	50	194	400	40	30	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length	0.0			0.0	0.0	0.0
Median Width		3.6	3.6		3.6	
Grade, %		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	232	478	48	36	24
Number of Lanes	0	2	2	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow All	526	0	-	0	738	263
Stage 1	-	-	-	-	502	-
Stage 2	-	-	-	-	236	-
Follow-up Headway	2.22	-	-	-	3.52	3.32
Pot Capacity-1 Maneuver	1037	-	-	-	353	735
Stage 1	-	-	-	-	573	-
Stage 2	-	-	-	-	781	-
Time blocked-Platoon, %	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1037	-	-	-	330	735
Mov Capacity-2 Maneuver	-	-	-	-	330	-
Stage 1	-	-	-	-	573	-
Stage 2	-	-	-	-	729	-

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	14.9
HCM LOS	-	-	B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Cap, veh/h	1037	-	-	-	423
HCM Control Delay, s	8.684	0.2	-	-	14.9
HCM Lane V/C Ratio	0.06	-	-	-	0.14
HCM Lane LOS	A	A	-	-	B
HCM 95th-tile Q, veh	0.2	-	-	-	0.5

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	10	154	129	20	12	174
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length	1.0			0.0	0.0	0.0
Median Width		3.6	3.6		3.6	
Grade, %		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	184	154	24	14	208
Number of Lanes	1	2	2	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow All	178	0	-	0	282	89
Stage 1	-	-	-	-	166	-
Stage 2	-	-	-	-	116	-
Follow-up Headway	2.22	-	-	-	3.52	3.32
Pot Capacity-1 Maneuver	1395	-	-	-	685	951
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	896	-
Time blocked-Platoon, %	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1395	-	-	-	679	951
Mov Capacity-2 Maneuver	-	-	-	-	679	-
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	888	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	10.1
HCM LOS	-	-	B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Cap, veh/h	1395	-	-	-	927
HCM Control Delay, s	7.603	-	-	-	10.1
HCM Lane V/C Ratio	0.01	-	-	-	0.24
HCM Lane LOS	A	-	-	-	B
HCM 95th-tile Q, veh	0.0	-	-	-	0.9

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	64	125	35	100	178	25	100	20	20	19	26	162
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	77	149	42	120	213	30	120	24	24	23	31	194
Number of Lanes	1	2	0	1	2	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	11.3	11.8	12.3	12
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	42%	0%
Vol Thru, %	0%	50%	0%	100%	54%	0%	100%	70%	58%	0%
Vol Right, %	0%	50%	0%	0%	46%	0%	0%	30%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	40	64	83	77	100	119	84	45	162
LT Vol	0	20	0	83	42	0	119	59	26	0
Through Vol	0	20	0	0	35	0	0	25	0	162
RT Vol	100	0	64	0	0	100	0	0	19	0
Lane Flow Rate	120	48	77	100	92	120	142	101	54	194
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.257	0.091	0.161	0.195	0.171	0.241	0.265	0.183	0.108	0.338
Departure Headway (Hd)	7.741	6.885	7.559	7.049	6.724	7.357	6.848	6.637	7.312	6.396
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	466	523	477	511	536	491	528	543	493	566
Service Time	5.453	4.597	5.266	4.757	4.431	5.057	4.548	4.337	5.012	4.096
HCM Lane V/C Ratio	0.258	0.092	0.161	0.196	0.172	0.244	0.269	0.186	0.11	0.343
HCM Control Delay	13.1	10.3	11.7	11.5	10.8	12.4	12	10.8	10.9	12.3
HCM Lane LOS	B	B	B	B	B	B	B	B	B	B
HCM 95th-tile Q	1	0.3	0.6	0.7	0.6	0.9	1.1	0.7	0.4	1.5

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	2	163	1	1	144	2	2	1	1	2	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	60.0		40.0	0.0		0.0	0.0		0.0	0.0		0.0
Median Width		3.6			3.6			0.0			0.0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	195	1	1	172	2	2	1	1	2	0	4
Number of Lanes	1	1	1	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	175	0	0	195	0	0	378	377	195	377	376	173
Stage 1	-	-	-	-	-	-	200	200	-	176	176	-
Stage 2	-	-	-	-	-	-	178	177	-	201	200	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	1401	-	-	1378	-	-	580	555	846	580	555	871
Stage 1	-	-	-	-	-	-	802	736	-	826	753	-
Stage 2	-	-	-	-	-	-	824	753	-	801	736	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1401	-	-	1378	-	-	577	554	846	577	554	871
Mov Capacity-2 Maneuver	-	-	-	-	-	-	577	554	-	577	554	-
Stage 1	-	-	-	-	-	-	801	735	-	825	752	-
Stage 2	-	-	-	-	-	-	820	752	-	797	735	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	10.9	10
HCM LOS	-	-	B	B

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	620	1401	-	-	1378	-	-	724
HCM Control Delay, s	10.9	7.574	-	-	7.615	0	-	10
HCM Lane V/C Ratio	0.01	0.00	-	-	0.00	-	-	0.01
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th-tile Q, veh	0.0	0.0	-	-	0.0	-	-	0.0

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	125	38	260	228	0	0	0	0	38	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0.0		100.0	0.0		0.0	0.0		0.0	100.0		0.0
Median Width		0.0			0.0			0.0			0.0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	136	41	283	248	0	0	0	0	41	0	5
Number of Lanes	0	2	0	0	2	0	0	0	0	0	1	1

Major/Minor	Major 1			Major 2						Minor 2		
Conflicting Flow All	248	0	0	177	0	0				881	990	124
Stage 1	-	-	-	-	-	-				813	813	-
Stage 2	-	-	-	-	-	-				68	177	-
Follow-up Headway	2.22	-	-	2.22	-	-				3.52	4.02	3.32
Pot Capacity-1 Maneuver	1315	-	-	1396	-	-				286	245	904
Stage 1	-	-	-	-	-	-				396	390	-
Stage 2	-	-	-	-	-	-				947	752	-
Time blocked-Platoon, %	0	-	-	0	-	-				0	0	0
Mov Capacity-1 Maneuver	1315	-	-	1396	-	-				219	0	904
Mov Capacity-2 Maneuver	-	-	-	-	-	-				219	0	-
Stage 1	-	-	-	-	-	-				303	0	-
Stage 2	-	-	-	-	-	-				947	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	4.5	23.4
HCM LOS	-	-	C

Minor Lane / Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Cap, veh/h	1315	-	-	1396	-	-	226	904
HCM Control Delay, s	0	-	-	8.232	0.3	-	24.6	9
HCM Lane V/C Ratio	-	-	-	0.20	-	-	0.19	0.00
HCM Lane LOS	A	-	-	A	A	-	C	A
HCM 95th-tile Q, veh	0.0	-	-	0.8	-	-	0.7	0.0

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	6	158	0	0	415	55	73	0	302	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0.0		0.0	0.0		0.0	100.0		0.0	0.0		0.0
Median Width		0.0			0.0			0.0			0.0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	172	0	0	451	60	79	0	328	0	0	0
Number of Lanes	0	2	0	0	1	1	0	1	1	0	0	0

Major/Minor	Major 1			Major 2			Minor 1		
Conflicting Flow All	451	0	0	172	0	0	636	636	86
Stage 1	-	-	-	-	-	-	185	185	-
Stage 2	-	-	-	-	-	-	451	451	-
Follow-up Headway	2.218	-	-	2.22	-	-	3.519	4.019	3.319
Pot Capacity-1 Maneuver	1109	-	-	1402	-	-	426	395	956
Stage 1	-	-	-	-	-	-	829	746	-
Stage 2	-	-	-	-	-	-	641	570	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0
Mov Capacity-1 Maneuver	1109	-	-	1402	-	-	423	0	956
Mov Capacity-2 Maneuver	-	-	-	-	-	-	423	0	-
Stage 1	-	-	-	-	-	-	823	0	-
Stage 2	-	-	-	-	-	-	641	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.3	0	11.4
HCM LOS	-	-	B

Minor Lane / Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR
Cap, veh/h	625	956	1109	-	-	1402	-	-
HCM Control Delay, s	13.2	9.9	8.265	0	-	0	-	-
HCM Lane V/C Ratio	0.30	0.23	0.01	-	-	-	-	-
HCM Lane LOS	B	A	A	A	-	A	-	-
HCM 95th-tile Q, veh	1.3	0.9	0.0	-	-	0.0	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	47	388	25	22	404	80	34	1	47	12	5	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Median Width		0.0			0.0			0.0			0.0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	422	27	24	439	87	37	1	51	13	5	36
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	526	0	0	449	0	0	808	1112	224	844	1081	263
Stage 1	-	-	-	-	-	-	538	538	-	530	530	-
Stage 2	-	-	-	-	-	-	270	574	-	314	551	-
Follow-up Headway	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Capacity-1 Maneuver	1037	-	-	1108	-	-	272	207	779	256	216	735
Stage 1	-	-	-	-	-	-	495	521	-	500	525	-
Stage 2	-	-	-	-	-	-	713	501	-	671	514	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1037	-	-	1108	-	-	235	187	779	221	195	735
Mov Capacity-2 Maneuver	-	-	-	-	-	-	235	187	-	221	195	-
Stage 1	-	-	-	-	-	-	462	487	-	467	509	-
Stage 2	-	-	-	-	-	-	650	485	-	584	480	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.4	16.9	15.4
HCM LOS	-	-	C	C

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	390	1037	-	-	1108	-	-	401
HCM Control Delay, s	16.9	8.651	0.2	-	8.321	0.1	-	15.4
HCM Lane V/C Ratio	0.23	0.05	-	-	0.02	-	-	0.14
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th-tile Q, veh	0.9	0.2	-	-	0.1	-	-	0.5

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	18	429	481	30	20	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length	0.0			0.0	0.0	0.0
Median Width		0.0	0.0		3.6	
Grade, %		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	466	523	33	22	27
Number of Lanes	0	2	2	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow All	555	0	-	0	811	278
Stage 1	-	-	-	-	539	-
Stage 2	-	-	-	-	272	-
Follow-up Headway	2.22	-	-	-	3.52	3.32
Pot Capacity-1 Maneuver	1011	-	-	-	317	719
Stage 1	-	-	-	-	549	-
Stage 2	-	-	-	-	749	-
Time blocked-Platoon, %	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1011	-	-	-	308	719
Mov Capacity-2 Maneuver	-	-	-	-	308	-
Stage 1	-	-	-	-	549	-
Stage 2	-	-	-	-	729	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	14
HCM LOS	-	-	B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Cap, veh/h	1011	-	-	-	451
HCM Control Delay, s	8.631	0.1	-	-	14
HCM Lane V/C Ratio	0.02	-	-	-	0.11
HCM Lane LOS	A	A	-	-	B
HCM 95th-tile Q, veh	0.1	-	-	-	0.4

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	15	434	501	30	60	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length	0.0			0.0	0.0	0.0
Median Width		0.0	0.0		3.6	
Grade, %		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	472	545	33	65	11
Number of Lanes	0	2	2	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow All	577	0	-	0	829	289
Stage 1	-	-	-	-	561	-
Stage 2	-	-	-	-	268	-
Follow-up Headway	2.22	-	-	-	3.52	3.32
Pot Capacity-1 Maneuver	993	-	-	-	309	708
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	753	-
Time blocked-Platoon, %	0	-	-	-	0	0
Mov Capacity-1 Maneuver	993	-	-	-	302	708
Mov Capacity-2 Maneuver	-	-	-	-	302	-
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	736	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	19.2
HCM LOS	-	-	C

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Cap, veh/h	993	-	-	-	329
HCM Control Delay, s	8.686	0.1	-	-	19.2
HCM Lane V/C Ratio	0.02	-	-	-	0.23
HCM Lane LOS	A	A	-	-	C
HCM 95th-tile Q, veh	0.1	-	-	-	0.9

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	3	468	23	54	490	4	33	0	49	16	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Median Width		0.0			0.0			0.0			0.0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	509	25	59	533	4	36	0	53	17	2	9
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	537	0	0	534	0	0	913	1182	267	913	1192	268
Stage 1	-	-	-	-	-	-	528	528	-	652	652	-
Stage 2	-	-	-	-	-	-	385	654	-	261	540	-
Follow-up Headway	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Capacity-1 Maneuver	1027	-	-	1030	-	-	228	188	731	228	186	730
Stage 1	-	-	-	-	-	-	502	526	-	423	462	-
Stage 2	-	-	-	-	-	-	610	461	-	721	519	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1027	-	-	1030	-	-	208	172	731	198	170	730
Mov Capacity-2 Maneuver	-	-	-	-	-	-	208	172	-	198	170	-
Stage 1	-	-	-	-	-	-	500	524	-	421	424	-
Stage 2	-	-	-	-	-	-	550	423	-	666	517	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.1	18.1	21.2
HCM LOS	-	-	C	C

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	363	1027	-	-	1030	-	-	251
HCM Control Delay, s	18.1	8.517	0	-	8.706	0.3	-	21.2
HCM Lane V/C Ratio	0.25	0.00	-	-	0.06	-	-	0.11
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th-tile Q, veh	1.0	0.0	-	-	0.2	-	-	0.4

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	15	498	20	8	506	5	13	2	10	10	2	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Median Width		0.0			0.0			0.0			0.0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	541	22	9	550	5	14	2	11	11	2	32
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	555	0	0	563	0	0	878	1158	282	874	1166	278
Stage 1	-	-	-	-	-	-	585	585	-	570	570	-
Stage 2	-	-	-	-	-	-	293	573	-	304	596	-
Follow-up Headway	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Capacity-1 Maneuver	1011	-	-	1005	-	-	242	195	715	244	193	719
Stage 1	-	-	-	-	-	-	464	496	-	474	504	-
Stage 2	-	-	-	-	-	-	691	502	-	681	490	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1011	-	-	1005	-	-	223	188	715	232	186	719
Mov Capacity-2 Maneuver	-	-	-	-	-	-	223	188	-	232	186	-
Stage 1	-	-	-	-	-	-	453	485	-	463	497	-
Stage 2	-	-	-	-	-	-	649	495	-	652	479	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.2	18.1	14.2
HCM LOS	-	-	C	B

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	301	1011	-	-	1005	-	-	435
HCM Control Delay, s	18.1	8.619	0.1	-	8.613	0.1	-	14.2
HCM Lane V/C Ratio	0.09	0.02	-	-	0.01	-	-	0.10
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th-tile Q, veh	0.3	0.0	-	-	0.0	-	-	0.3

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	12.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	12	467	39	26	479	18	28	3	29	4	7	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Median Width		0.0			0.0			0.0			0.0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	508	42	28	521	20	30	3	32	4	8	13
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow All	373	119	14	378	109	19	21	0	0	35	0	0
Stage 1	23	23	-	80	80	-	-	-	-	-	-	-
Stage 2	350	96	-	298	29	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	584	771	1066	580	781	1059	1595	-	-	1576	-	-
Stage 1	995	876	-	929	828	-	-	-	-	-	-	-
Stage 2	666	815	-	711	871	-	-	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	254	754	1066	251	764	1059	1595	-	-	1576	-	-
Mov Capacity-2 Maneuver	254	754	-	251	764	-	-	-	-	-	-	-
Stage 1	976	873	-	911	812	-	-	-	-	-	-	-
Stage 2	230	800	-	285	868	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	13.7	3.4	1.3
HCM LOS	B	B	-	-

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Cap, veh/h	1595	-	-	688	787	637	779	1576	-	-
HCM Control Delay, s	7.301	0	-	13.5	12.3	15.2	12.2	7.291	0	-
HCM Lane V/C Ratio	0.02	-	-	0.39	0.38	0.45	0.36	0.00	-	-
HCM Lane LOS	A	A	-	B	B	C	B	A	A	-
HCM 95th-tile Q, veh	0.1	-	-	1.8	1.8	2.4	1.6	0.0	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	450	50	51	513	10	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length		0.0	0.0		0.0	0.0
Median Width	3.6			3.6	3.6	
Grade, %	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	489	54	55	558	11	15
Number of Lanes	2	0	0	2	1	0

Major/Minor	Major 1			Major 2		
Conflicting Flow All	0	0	543	0	906	272
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	390	-
Follow-up Headway	-	-	2.22	-	3.52	3.32
Pot Capacity-1 Maneuver	-	-	1022	-	276	726
Stage 1	-	-	-	-	564	-
Stage 2	-	-	-	-	653	-
Time blocked-Platoon, %	-	-	0	-	0	0
Mov Capacity-1 Maneuver	-	-	1022	-	254	726
Mov Capacity-2 Maneuver	-	-	-	-	254	-
Stage 1	-	-	-	-	564	-
Stage 2	-	-	-	-	602	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	14.4
HCM LOS	-	-	B

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Cap, veh/h	409	-	-	1022	-
HCM Control Delay, s	14.4	-	-	8.724	0.3
HCM Lane V/C Ratio	0.06	-	-	0.05	-
HCM Lane LOS	B	-	-	A	A
HCM 95th-tile Q, veh	0.2	-	-	0.2	-

Notes

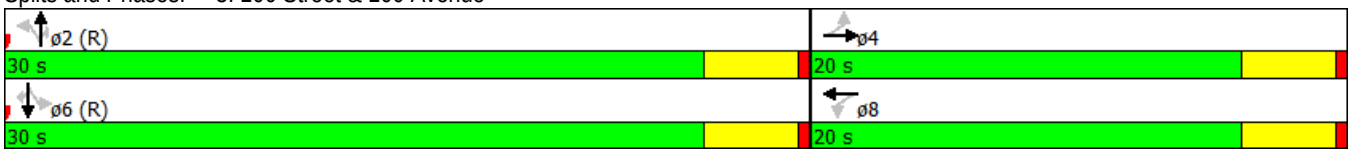
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	81	270	113	96	240	40	226	190	251	83	127	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	15.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1770	3383	0	1770	3465	0	0	1814	1583	0	1827	1583
Flt Permitted	0.567			0.486				0.712			0.749	
Satd. Flow (perm)	1056	3383	0	905	3465	0	0	1326	1583	0	1395	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		123			39				273			107
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		149.6			114.6			405.3			211.0	
Travel Time (s)		10.8			8.3			29.2			15.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	416	0	104	304	0	0	453	273	0	228	107
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Total Split (s)	20.0	20.0		20.0	20.0		30.0	30.0	30.0	30.0	30.0	30.0
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Act Effct Green (s)	16.0	16.0		16.0	16.0			26.0	26.0		26.0	26.0
Actuated g/C Ratio	0.32	0.32		0.32	0.32			0.52	0.52		0.52	0.52
v/c Ratio	0.26	0.36		0.36	0.27			0.66	0.29		0.31	0.12
Control Delay	15.2	10.0		17.5	11.7			14.5	2.0		8.4	2.1
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	15.2	10.0		17.5	11.7			14.5	2.0		8.4	2.1
LOS	B	B		B	B			B	A		A	A
Approach Delay		10.9			13.2			9.8			6.4	
Approach LOS		B			B			A			A	
Queue Length 50th (m)	6.0	10.5		7.3	9.4			27.6	0.0		10.9	0.0
Queue Length 95th (m)	15.1	19.5		18.2	17.1			55.0	8.2		22.1	5.2
Internal Link Dist (m)		125.6			90.6			381.3			187.0	
Turn Bay Length (m)	30.0			15.0								
Base Capacity (vph)	337	1166		289	1135			689	954		725	874
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.26	0.36		0.36	0.27			0.66	0.29		0.31	0.12

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Control Type: Pretimed			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 10.2		Intersection LOS: B	
Intersection Capacity Utilization 63.5%		ICU Level of Service B	

Analysis Period (min) 15

Splits and Phases: 3: 100 Street & 100 Avenue



Intersection	
Intersection Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	45	499	60	5	301	3	40	2	4	1	2	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	25.0		0.0	15.0		0.0	0.0		0.0	0.0		0.0
Median Width		3.6			3.6			0.0			0.0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	542	65	5	327	3	43	2	4	1	2	38
Number of Lanes	1	2	0	1	2	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	330	0	0	608	0	0	849	1014	304	710	1045	165
Stage 1	-	-	-	-	-	-	673	673	-	340	340	-
Stage 2	-	-	-	-	-	-	176	341	-	370	705	-
Follow-up Headway	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Capacity-1 Maneuver	1226	-	-	966	-	-	254	237	692	321	227	850
Stage 1	-	-	-	-	-	-	411	452	-	648	638	-
Stage 2	-	-	-	-	-	-	809	637	-	622	437	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1226	-	-	966	-	-	233	226	692	306	217	850
Mov Capacity-2 Maneuver	-	-	-	-	-	-	233	226	-	306	217	-
Stage 1	-	-	-	-	-	-	395	434	-	622	635	-
Stage 2	-	-	-	-	-	-	766	634	-	590	420	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.1	23.2	10.4
HCM LOS	-	-	C	B

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	247	1226	-	-	966	-	-	708
HCM Control Delay, s	23.2	8.058	-	-	8.748	-	-	10.4
HCM Lane V/C Ratio	0.20	0.04	-	-	0.01	-	-	0.06
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th-tile Q, veh	0.7	0.1	-	-	0.0	-	-	0.2

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	484	20	3	269	40	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length		0.0	40.0		0.0	0.0
Median Width	3.6			3.6	3.6	
Grade, %	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	526	22	3	292	43	5
Number of Lanes	2	0	1	2	1	0

Major/Minor	Major 1			Major 2		
Conflicting Flow All	0	0	548	0	690	274
Stage 1	-	-	-	-	537	-
Stage 2	-	-	-	-	153	-
Follow-up Headway	-	-	2.22	-	3.52	3.32
Pot Capacity-1 Maneuver	-	-	1018	-	379	724
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	859	-
Time blocked-Platoon, %	-	-	0	-	0	0
Mov Capacity-1 Maneuver	-	-	1018	-	378	724
Mov Capacity-2 Maneuver	-	-	-	-	378	-
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	856	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	15.3
HCM LOS	-	-	C

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Cap, veh/h	399	-	-	1018	-
HCM Control Delay, s	15.3	-	-	8.548	-
HCM Lane V/C Ratio	0.12	-	-	0.00	-
HCM Lane LOS	C	-	-	A	-
HCM 95th-tile Q, veh	0.4	-	-	0.0	-

Notes

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Intersection	
Intersection Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	429	60	12	227	45	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length		0.0	30.0		0.0	0.0
Median Width	3.6			3.6	3.6	
Grade, %	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	466	65	13	247	49	11
Number of Lanes	2	0	1	2	1	0

Major/Minor	Major 1			Major 2		
Conflicting Flow All	0	0	532	0	648	266
Stage 1	-	-	-	-	499	-
Stage 2	-	-	-	-	149	-
Follow-up Headway	-	-	2.22	-	3.52	3.32
Pot Capacity-1 Maneuver	-	-	1032	-	403	732
Stage 1	-	-	-	-	575	-
Stage 2	-	-	-	-	863	-
Time blocked-Platoon, %	-	-	0	-	0	0
Mov Capacity-1 Maneuver	-	-	1032	-	398	732
Mov Capacity-2 Maneuver	-	-	-	-	398	-
Stage 1	-	-	-	-	575	-
Stage 2	-	-	-	-	852	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	14.6
HCM LOS	-	-	B

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Cap, veh/h	434	-	-	1032	-
HCM Control Delay, s	14.6	-	-	8.533	-
HCM Lane V/C Ratio	0.14	-	-	0.01	-
HCM Lane LOS	B	-	-	A	-
HCM 95th-tile Q, veh	0.5	-	-	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	369	70	10	194	45	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length		0.0	30.0		0.0	0.0
Median Width	3.6			3.6	3.6	
Grade, %	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	401	76	11	211	49	0
Number of Lanes	2	0	1	2	1	0

Major/Minor	Major 1			Major 2		
Conflicting Flow All	0	0	477	0	566	239
Stage 1	-	-	-	-	439	-
Stage 2	-	-	-	-	127	-
Follow-up Headway	-	-	2.22	-	3.52	3.32
Pot Capacity-1 Maneuver	-	-	1082	-	454	762
Stage 1	-	-	-	-	617	-
Stage 2	-	-	-	-	885	-
Time blocked-Platoon, %	-	-	0	-	0	0
Mov Capacity-1 Maneuver	-	-	1082	-	449	762
Mov Capacity-2 Maneuver	-	-	-	-	449	-
Stage 1	-	-	-	-	617	-
Stage 2	-	-	-	-	876	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	14
HCM LOS	-	-	B

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Cap, veh/h	449	-	-	1082	-
HCM Control Delay, s	14	-	-	8.361	-
HCM Lane V/C Ratio	0.11	-	-	0.01	-
HCM Lane LOS	B	-	-	A	-
HCM 95th-tile Q, veh	0.4	-	-	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	75	293	164	40	30	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length	0.0			0.0	0.0	0.0
Median Width		3.6	3.6		3.6	
Grade, %		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	318	178	43	33	43
Number of Lanes	0	2	2	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow All	222	0	-	0	522	111
Stage 1	-	-	-	-	200	-
Stage 2	-	-	-	-	322	-
Follow-up Headway	2.22	-	-	-	3.52	3.32
Pot Capacity-1 Maneuver	1344	-	-	-	484	921
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	707	-
Time blocked-Platoon, %	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1344	-	-	-	448	921
Mov Capacity-2 Maneuver	-	-	-	-	448	-
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	655	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	11.5
HCM LOS	-	-	B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Cap, veh/h	1344	-	-	-	634
HCM Control Delay, s	7.851	0.2	-	-	11.5
HCM Lane V/C Ratio	0.06	-	-	-	0.12
HCM Lane LOS	A	A	-	-	B
HCM 95th-tile Q, veh	0.2	-	-	-	0.4

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	5.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	110	52	40	20	12	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length	1.0			0.0	0.0	0.0
Median Width		3.6	3.6		3.6	
Grade, %		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	57	43	22	13	102
Number of Lanes	1	2	2	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow All	65	0	-	0	321	33
Stage 1	-	-	-	-	54	-
Stage 2	-	-	-	-	267	-
Follow-up Headway	2.22	-	-	-	3.52	3.32
Pot Capacity-1 Maneuver	1535	-	-	-	648	1033
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	754	-
Time blocked-Platoon, %	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1535	-	-	-	597	1033
Mov Capacity-2 Maneuver	-	-	-	-	597	-
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	695	-

Approach	EB	WB	SB
HCM Control Delay, s	5.1	0	9.3
HCM LOS	-	-	A

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Cap, veh/h	1535	-	-	-	954
HCM Control Delay, s	7.543	-	-	-	9.3
HCM Lane V/C Ratio	0.08	-	-	-	0.12
HCM Lane LOS	A	-	-	-	A
HCM 95th-tile Q, veh	0.3	-	-	-	0.4

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	87	129	107	29	78	27	77	17	16	17	30	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	95	140	116	32	85	29	84	18	17	18	33	53
Number of Lanes	1	2	0	1	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	9.2	8.8	10.3	9.4
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	70%	100%	0%	0%	100%	0%	0%	18%
Vol Thru, %	15%	0%	100%	29%	0%	100%	49%	31%
Vol Right, %	15%	0%	0%	71%	0%	0%	51%	51%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	110	87	86	150	29	52	53	96
LT Vol	17	0	86	43	0	52	26	30
Through Vol	16	0	0	107	0	0	27	49
RT Vol	77	87	0	0	29	0	0	17
Lane Flow Rate	120	95	93	163	32	57	58	104
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.2	0.154	0.139	0.219	0.053	0.087	0.083	0.161
Departure Headway (Hd)	6.023	5.853	5.348	4.844	6.065	5.56	5.199	5.543
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	591	609	667	735	586	639	682	641
Service Time	3.808	3.621	3.116	2.611	3.851	3.345	2.984	3.33
HCM Lane V/C Ratio	0.203	0.156	0.139	0.222	0.055	0.089	0.085	0.162
HCM Control Delay	10.3	9.7	9	9	9.2	8.9	8.5	9.4
HCM Lane LOS	B	A	A	A	A	A	A	A
HCM 95th-tile Q	0.7	0.5	0.5	0.8	0.2	0.3	0.3	0.6

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	2	61	1	1	55	2	2	1	1	2	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	60.0		40.0	0.0		0.0	0.0		0.0	0.0		0.0
Median Width		3.6			3.6			0.0			0.0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	66	1	1	60	2	2	1	1	2	0	3
Number of Lanes	1	1	1	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	62	0	0	66	0	0	136	135	66	135	134	61
Stage 1	-	-	-	-	-	-	71	71	-	63	63	-
Stage 2	-	-	-	-	-	-	65	64	-	72	71	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	1541	-	-	1536	-	-	835	756	998	836	757	1004
Stage 1	-	-	-	-	-	-	939	836	-	948	842	-
Stage 2	-	-	-	-	-	-	946	842	-	938	836	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1541	-	-	1536	-	-	831	754	998	833	755	1004
Mov Capacity-2 Maneuver	-	-	-	-	-	-	831	754	-	833	755	-
Stage 1	-	-	-	-	-	-	938	835	-	947	841	-
Stage 2	-	-	-	-	-	-	942	841	-	935	835	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	9.3	8.9
HCM LOS	-	-	A	A

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	845	1541	-	-	1536	-	-	928
HCM Control Delay, s	9.3	7.339	-	-	7.345	0	-	8.9
HCM Lane V/C Ratio	0.01	0.00	-	-	0.00	-	-	0.01
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th-tile Q, veh	0.0	0.0	-	-	0.0	-	-	0.0

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

50% Build Out

100 Avenue Roundabout Option

Al-Terra

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	857	964	149	221
Demand Flow Rate, veh/h	874	984	151	226
Vehicles Circulating, veh/h	72	227	869	1023
Vehicles Exiting, veh/h	1177	793	77	188
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.8	10.4	9.1	13.3
Approach LOS	A	B	A	B

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.470	0.530	1.000	1.000
Critical Headway, s	4.293	4.113	4.293	4.113	4.113	4.113
Entry Flow, veh/h	411	463	462	522	151	226
Cap Entry Lane, veh/h	1071	1074	953	964	615	552
Entry HV Adj Factor	0.979	0.980	0.981	0.979	0.986	0.978
Flow Entry, veh/h	403	454	453	511	149	221
Cap Entry, veh/h	1049	1053	935	944	606	540
V/C Ratio	3.84	0.431	4.85	0.542	2.46	4.09
Control Delay, s/veh	7.5	8.1	9.8	10.9	9.1	13.3
LOS	A	A	A	B	A	B
95th %tile Queue, veh	0.2	2	0.3	3	0.1	0.2

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	788	914	73	39
Demand Flow Rate, veh/h	804	933	75	39
Vehicles Circulating, veh/h	43	46	785	965
Vehicles Exiting, veh/h	961	814	62	14
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.1	8.0	7.0	7.1
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.471	0.529	1.000	1.000
Critical Headway, s	4.293	4.113	4.293	4.113	4.113	4.113
Entry Flow, veh/h	378	426	439	494	75	39
Cap Entry Lane, veh/h	1094	1096	1092	1094	652	575
Entry HV Adj Factor	0.980	0.980	0.979	0.981	0.972	0.996
Flow Entry, veh/h	370	418	430	485	73	39
Cap Entry, veh/h	1072	1075	1069	1073	634	573
V/C Ratio	3.45	0.389	4.02	0.451	1.15	0.68
Control Delay, s/veh	6.8	7.4	7.6	8.3	7.0	7.1
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0.2	2	0.2	2	0.0	0.0

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	776	882	52	39
Demand Flow Rate, veh/h	792	899	53	39
Vehicles Circulating, veh/h	31	57	780	918
Vehicles Exiting, veh/h	926	776	42	38
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.0	7.9	6.5	6.8
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.471	0.529	1.000	1.000
Critical Headway, s	4.293	4.113	4.293	4.113	4.113	4.113
Entry Flow, veh/h	372	420	423	476	53	39
Cap Entry Lane, veh/h	1104	1106	1083	1086	655	594
Entry HV Adj Factor	0.980	0.979	0.980	0.982	0.980	0.998
Flow Entry, veh/h	365	411	414	467	52	39
Cap Entry, veh/h	1082	1082	1061	1066	641	593
V/C Ratio	3.37	0.380	3.91	0.438	0.81	0.66
Control Delay, s/veh	6.7	7.2	7.5	8.2	6.5	6.8
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0.1	2	0.2	2	0.0	0.0

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	768	758	630	520
Demand Flow Rate, veh/h	783	774	643	531
Vehicles Circulating, veh/h	479	678	593	837
Vehicles Exiting, veh/h	889	558	669	615
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	11.4	14.7	11.0	12.6
Approach LOS	B	B	B	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.470	0.530	0.470	0.530	0.470	0.530	0.471	0.529
Critical Headway, s	4.293	4.113	4.293	4.113	4.293	4.113	4.293	4.113
Entry Flow, veh/h	368	415	364	410	302	341	250	281
Cap Entry Lane, veh/h	789	808	680	703	724	746	603	629
Entry HV Adj Factor	0.981	0.981	0.979	0.980	0.981	0.980	0.978	0.981
Flow Entry, veh/h	361	407	356	402	296	334	244	276
Cap Entry, veh/h	774	793	665	689	711	731	590	617
V/C Ratio	4.66	0.514	5.36	0.583	4.17	0.457	4.14	0.447
Control Delay, s/veh	11.0	11.8	14.2	15.2	10.7	11.3	12.4	12.7
LOS	B	B	B	C	B	B	B	B
95th %tile Queue, veh	0.3	3	0.3	4	0.2	2	0.2	2

Intersection	
Intersection Delay, s/veh	6.1
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	508	717	45	15
Demand Flow Rate, veh/h	519	731	46	15
Vehicles Circulating, veh/h	30	35	497	755
Vehicles Exiting, veh/h	740	508	52	11
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.5	6.7	5.2	5.7
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.471	0.529	1.000	1.000
Critical Headway, s	4.293	4.113	4.293	4.113	4.113	4.113
Entry Flow, veh/h	244	275	344	387	46	15
Cap Entry Lane, veh/h	1105	1106	1101	1103	798	666
Entry HV Adj Factor	0.979	0.980	0.980	0.982	0.978	0.993
Flow Entry, veh/h	239	269	337	380	45	15
Cap Entry, veh/h	1082	1084	1078	1083	780	662
V/C Ratio	2.21	0.249	3.13	0.351	0.58	0.23
Control Delay, s/veh	5.4	5.7	6.4	6.9	5.2	5.7
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0.1	1	0.1	2	0.0	0.0

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	471	540	250	295
Demand Flow Rate, veh/h	480	551	254	302
Vehicles Circulating, veh/h	221	286	450	670
Vehicles Exiting, veh/h	751	418	251	167
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.3	7.2	7.9	11.2
Approach LOS	A	A	A	B

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.471	0.529	0.470	0.530	1.000	1.000
Critical Headway, s	4.293	4.113	4.293	4.113	4.113	4.113
Entry Flow, veh/h	226	254	259	292	254	302
Cap Entry Lane, veh/h	957	968	912	925	825	707
Entry HV Adj Factor	0.979	0.983	0.980	0.980	0.982	0.978
Flow Entry, veh/h	221	250	254	286	250	295
Cap Entry, veh/h	937	951	893	907	810	691
V/C Ratio	2.36	0.262	2.84	0.316	3.08	4.27
Control Delay, s/veh	6.2	6.4	7.0	7.4	7.9	11.2
LOS	A	A	A	A	A	B
95th %tile Queue, veh	0.1	1	0.1	1	0.1	0.2

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	411	410	263	221
Demand Flow Rate, veh/h	419	419	268	226
Vehicles Circulating, veh/h	279	188	416	417
Vehicles Exiting, veh/h	364	496	282	190
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.1	9.3	8.3	8.6
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Left	Right	Left
Designated Moves	LT	R	LTR	L	TR	LTR
Assumed Moves	LT	R	LTR	L	TR	LTR
RT Channelized						
Lane Util	0.878	0.122	1.000	0.127	0.873	1.000
Critical Headway, s	5.193	5.193	5.193	5.193	5.193	5.193
Entry Flow, veh/h	368	51	419	34	234	226
Cap Entry Lane, veh/h	855	855	936	745	745	745
Entry HV Adj Factor	0.980	0.980	0.979	0.971	0.982	0.979
Flow Entry, veh/h	361	50	410	33	230	221
Cap Entry, veh/h	838	838	917	723	732	729
V/C Ratio	4.30	0.060	4.48	0.46	0.314	3.03
Control Delay, s/veh	9.7	4.9	9.3	5.4	8.7	8.6
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0.2	0	0.2	0.0	1	0.1

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1064	946	101	183
Demand Flow Rate, veh/h	1086	965	103	187
Vehicles Circulating, veh/h	57	239	1073	910
Vehicles Exiting, veh/h	1040	937	70	293
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.3	10.4	9.5	10.5
Approach LOS	A	B	A	B

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.470	0.530	1.000	1.000
Critical Headway, s	4.293	4.113	4.293	4.113	4.113	4.113
Entry Flow, veh/h	510	576	454	511	103	187
Cap Entry Lane, veh/h	1083	1086	945	956	533	598
Entry HV Adj Factor	0.981	0.979	0.979	0.981	0.980	0.978
Flow Entry, veh/h	500	564	444	501	101	183
Cap Entry, veh/h	1062	1063	925	937	523	585
V/C Ratio	4.71	0.531	4.81	0.535	1.93	3.13
Control Delay, s/veh	8.7	9.8	9.8	10.8	9.5	10.5
LOS	A	A	A	B	A	B
95th %tile Queue, veh	0.3	3	0.3	3	0.1	0.1

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	961	963	102	50
Demand Flow Rate, veh/h	980	982	104	51
Vehicles Circulating, veh/h	86	61	967	1022
Vehicles Exiting, veh/h	986	1010	99	21
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.7	8.5	8.7	7.8
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.470	0.530	1.000	1.000
Critical Headway, s	4.293	4.113	4.293	4.113	4.113	4.113
Entry Flow, veh/h	461	519	462	520	104	51
Cap Entry Lane, veh/h	1059	1064	1079	1083	574	553
Entry HV Adj Factor	0.979	0.981	0.980	0.982	0.981	0.980
Flow Entry, veh/h	452	509	453	510	102	50
Cap Entry, veh/h	1038	1044	1058	1063	563	541
V/C Ratio	4.35	0.488	4.28	0.480	1.81	0.92
Control Delay, s/veh	8.3	9.1	8.1	8.9	8.7	7.8
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0.2	3	0.2	3	0.1	0.0

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	968	930	72	25
Demand Flow Rate, veh/h	987	949	74	25
Vehicles Circulating, veh/h	43	60	943	962
Vehicles Exiting, veh/h	944	957	87	47
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.4	8.2	7.9	6.8
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.470	0.530	1.000	1.000
Critical Headway, s	4.293	4.113	4.293	4.113	4.113	4.113
Entry Flow, veh/h	464	523	446	503	74	25
Cap Entry Lane, veh/h	1094	1096	1080	1083	584	576
Entry HV Adj Factor	0.981	0.981	0.981	0.980	0.972	0.994
Flow Entry, veh/h	455	513	437	493	72	25
Cap Entry, veh/h	1073	1076	1059	1062	568	573
V/C Ratio	4.24	0.477	4.13	0.464	1.27	0.43
Control Delay, s/veh	7.9	8.7	7.8	8.6	7.9	6.8
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0.2	3	0.2	3	0.0	0.0

Intersection	
Intersection Delay, s/veh	15.8
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	898	615	857	517
Demand Flow Rate, veh/h	915	626	875	526
Vehicles Circulating, veh/h	418	808	824	884
Vehicles Exiting, veh/h	992	891	509	550
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.4	14.0	22.4	13.2
Approach LOS	B	B	C	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.470	0.530	0.470	0.530	0.470	0.530	0.470	0.530
Critical Headway, s	4.293	4.113	4.293	4.113	4.293	4.113	4.293	4.113
Entry Flow, veh/h	430	485	294	332	411	464	247	279
Cap Entry Lane, veh/h	826	843	616	642	609	635	582	609
Entry HV Adj Factor	0.981	0.981	0.982	0.981	0.980	0.979	0.983	0.981
Flow Entry, veh/h	422	476	289	326	403	454	243	274
Cap Entry, veh/h	810	827	606	630	597	621	572	597
V/C Ratio	5.21	0.575	4.77	0.517	6.75	0.731	4.24	0.458
Control Delay, s/veh	11.8	12.9	13.6	14.3	21.0	23.6	13.0	13.3
LOS	B	B	B	B	C	C	B	B
95th %tile Queue, veh	0.3	4	0.3	3	0.5	6	0.2	2

Intersection	
Intersection Delay, s/veh	6.1
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	704	434	77	46
Demand Flow Rate, veh/h	718	442	78	46
Vehicles Circulating, veh/h	44	88	646	484
Vehicles Exiting, veh/h	486	636	116	46
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.6	5.4	6.2	5.0
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.469	0.531	0.471	0.529	1.000	1.000
Critical Headway, s	4.293	4.113	4.293	4.113	4.113	4.113
Entry Flow, veh/h	337	381	208	234	78	46
Cap Entry Lane, veh/h	1093	1096	1058	1062	719	805
Entry HV Adj Factor	0.982	0.980	0.981	0.983	0.987	0.999
Flow Entry, veh/h	331	373	204	230	77	46
Cap Entry, veh/h	1074	1073	1038	1045	709	805
V/C Ratio	3.08	0.348	1.97	0.220	1.08	0.57
Control Delay, s/veh	6.4	6.9	5.3	5.5	6.2	5.0
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0.1	2	0.1	1	0.0	0.0

Intersection	
Intersection Delay, s/veh	6.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	552	332	177	138
Demand Flow Rate, veh/h	564	338	180	141
Vehicles Circulating, veh/h	131	258	448	411
Vehicles Exiting, veh/h	421	370	247	185
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.3	5.7	6.8	6.0
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.470	0.530	1.000	1.000
Critical Headway, s	4.293	4.113	4.293	4.113	4.113	4.113
Entry Flow, veh/h	265	299	159	179	180	141
Cap Entry Lane, veh/h	1024	1031	931	943	826	847
Entry HV Adj Factor	0.979	0.979	0.980	0.982	0.981	0.981
Flow Entry, veh/h	260	293	156	176	177	138
Cap Entry, veh/h	1003	1009	913	926	810	831
V/C Ratio	2.59	0.290	1.71	0.190	2.18	1.66
Control Delay, s/veh	6.1	6.5	5.6	5.7	6.8	6.0
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0.1	1	0.1	1	0.1	0.1

Intersection	
Intersection Delay, s/veh	6.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	256	329	248	177
Demand Flow Rate, veh/h	262	336	253	181
Vehicles Circulating, veh/h	258	192	258	334
Vehicles Exiting, veh/h	257	319	262	194
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.1	7.3	5.9	6.2
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Left	Right	Left
Designated Moves	LT	R	LTR	L	TR	LTR
Assumed Moves	LT	R	LTR	L	TR	LTR
RT Channelized						
Lane Util	0.851	0.149	1.000	0.150	0.850	1.000
Critical Headway, s	4.293	4.113	4.113	4.293	4.113	4.113
Entry Flow, veh/h	223	39	336	38	215	181
Cap Entry Lane, veh/h	931	943	988	931	943	894
Entry HV Adj Factor	0.979	0.974	0.980	0.974	0.980	0.977
Flow Entry, veh/h	218	38	329	37	211	177
Cap Entry, veh/h	912	919	968	907	925	874
V/C Ratio	2.39	0.041	3.40	0.41	0.228	2.02
Control Delay, s/veh	6.4	4.3	7.3	4.3	6.2	6.2
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0.1	0	0.2	0.0	1	0.1

100% Build Out

100 Avenue Roundabout Option

Al-Terra

Intersection	
Intersection Delay, s/veh	16.8
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1222	1350	146	361
Demand Flow Rate, veh/h	1247	1378	149	368
Vehicles Circulating, veh/h	134	327	1302	1414
Vehicles Exiting, veh/h	1648	1124	79	291
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.1	20.9	13.6	18.6
Approach LOS	B	C	B	C

Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LTR	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.470	0.530
Critical Headway, s	4.293	4.113	4.293	4.113	4.113	4.293	4.113
Entry Flow, veh/h	586	661	648	730	149	173	195
Cap Entry Lane, veh/h	1022	1029	884	899	454	391	420
Entry HV Adj Factor	0.980	0.980	0.979	0.980	0.979	0.981	0.981
Flow Entry, veh/h	574	648	635	716	146	170	191
Cap Entry, veh/h	1002	1008	866	881	445	384	412
V/C Ratio	5.73	0.643	7.33	0.812	3.28	4.42	0.464
Control Delay, s/veh	11.2	13.0	18.3	23.2	13.6	18.8	18.4
LOS	B	B	C	C	B	C	C
95th %tile Queue, veh	0.4	5	0.7	9	0.1	0.2	2

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1199	1368	82	53
Demand Flow Rate, veh/h	1223	1396	84	54
Vehicles Circulating, veh/h	76	110	1228	1486
Vehicles Exiting, veh/h	1464	1202	71	20
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	10.9	13.9	10.2	11.3
Approach LOS	B	B	B	B

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.470	0.530	1.000	1.000
Critical Headway, s	4.293	4.113	4.293	4.113	4.113	4.113
Entry Flow, veh/h	575	648	656	740	84	54
Cap Entry Lane, veh/h	1067	1071	1040	1046	478	399
Entry HV Adj Factor	0.980	0.981	0.980	0.980	0.975	0.979
Flow Entry, veh/h	564	635	643	725	82	53
Cap Entry, veh/h	1046	1051	1020	1025	467	391
V/C Ratio	5.39	0.605	6.30	0.707	1.76	1.35
Control Delay, s/veh	10.1	11.5	12.5	15.0	10.2	11.3
LOS	B	B	B	C	B	B
95th %tile Queue, veh	0.3	4	0.5	6	0.1	0.0

Intersection	
Intersection Delay, s/veh	10.0
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	3	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1165	0	59	39
Demand Flow Rate, veh/h	1189	0	60	39
Vehicles Circulating, veh/h	41	109	1183	1398
Vehicles Exiting, veh/h	1396	1134	47	46
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	10.0	0.0	9.1	9.8
Approach LOS	B	-	A	A

Lane	Left	Right	Left	Left
Designated Moves	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LTR	LTR
RT Channelized				
Lane Util	0.470	0.530	1.000	1.000
Critical Headway, s	4.293	4.113	4.113	4.113
Entry Flow, veh/h	559	630	60	39
Cap Entry Lane, veh/h	1096	1098	494	425
Entry HV Adj Factor	0.979	0.980	0.982	0.998
Flow Entry, veh/h	548	617	59	39
Cap Entry, veh/h	1073	1076	485	424
V/C Ratio	5.10	0.574	1.22	0.92
Control Delay, s/veh	9.3	10.6	9.1	9.8
LOS	A	B	A	A
95th %tile Queue, veh	0.3	4	0.0	0.0

Intersection	
Intersection Delay, s/veh	32.2
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	3	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	0	987	756	746
Demand Flow Rate, veh/h	0	1007	771	761
Vehicles Circulating, veh/h	570	929	926	1142
Vehicles Exiting, veh/h	1333	768	796	794
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	40.4	21.5	32.1
Approach LOS	-	E	C	D

Lane	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	L	LTR	LT	TR
Assumed Moves	LT	TR	L	TR	LT	R
RT Channelized						
Lane Util	0.470	0.530	0.486	0.514	0.476	0.524
Critical Headway, s	4.293	4.113	4.293	4.113	4.293	4.113
Entry Flow, veh/h	473	534	375	396	362	399
Cap Entry Lane, veh/h	563	590	564	591	480	508
Entry HV Adj Factor	0.981	0.980	0.981	0.979	0.981	0.980
Flow Entry, veh/h	464	523	368	388	355	391
Cap Entry, veh/h	552	578	554	579	471	498
V/C Ratio	8.40	0.906	6.65	0.670	7.54	0.785
Control Delay, s/veh	36.1	44.2	21.8	21.3	31.3	32.8
LOS	E	E	C	C	D	D
95th %tile Queue, veh	0.9	11	0.5	5	0.6	7

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	673	719	326	342
Demand Flow Rate, veh/h	687	734	332	349
Vehicles Circulating, veh/h	266	344	646	881
Vehicles Exiting, veh/h	964	634	307	197
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.1	9.2	11.7	16.6
Approach LOS	A	A	B	C

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.470	0.530	1.000	1.000
Critical Headway, s	4.293	4.113	4.293	4.113	4.113	4.113
Entry Flow, veh/h	323	364	345	389	332	349
Cap Entry Lane, veh/h	926	938	873	888	719	610
Entry HV Adj Factor	0.979	0.980	0.980	0.980	0.981	0.981
Flow Entry, veh/h	316	357	338	381	326	342
Cap Entry, veh/h	906	919	855	870	705	598
V/C Ratio	3.49	0.388	3.95	0.438	4.62	5.72
Control Delay, s/veh	7.8	8.3	8.9	9.5	11.7	16.6
LOS	A	A	A	A	B	C
95th %tile Queue, veh	0.2	2	0.2	2	0.2	0.4

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	708	927	84	15
Demand Flow Rate, veh/h	722	946	86	15
Vehicles Circulating, veh/h	38	57	686	990
Vehicles Exiting, veh/h	967	715	74	13
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.6	8.2	6.6	6.7
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.470	0.530	1.000	1.000
Critical Headway, s	4.293	4.113	4.293	4.113	4.113	4.113
Entry Flow, veh/h	339	383	445	501	86	15
Cap Entry Lane, veh/h	1098	1100	1083	1086	699	565
Entry HV Adj Factor	0.981	0.979	0.979	0.981	0.976	0.993
Flow Entry, veh/h	333	375	436	491	84	15
Cap Entry, veh/h	1078	1078	1060	1065	682	561
V/C Ratio	3.09	0.348	4.11	0.461	1.23	0.27
Control Delay, s/veh	6.4	6.9	7.8	8.6	6.6	6.7
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0.1	2	0.2	2	0.0	0.0

Intersection	
Intersection Delay, s/veh	17.2
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	1	2	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	623	644	520	434
Demand Flow Rate, veh/h	636	657	530	443
Vehicles Circulating, veh/h	553	368	629	653
Vehicles Exiting, veh/h	543	791	460	372
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	16.7	19.5	15.5	16.2
Approach LOS	C	C	C	C

Lane	Left	Bypass	Left	Left	Right	Left
Designated Moves	LT	R	LTR	L	TR	LTR
Assumed Moves	LT	R	LTR	L	TR	LTR
RT Channelized		Yield				
Lane Util	1.000		1.000	0.121	0.879	1.000
Critical Headway, s	4.113		4.113	4.293	4.113	4.113
Entry Flow, veh/h	536	100	657	64	466	443
Cap Entry Lane, veh/h	767	713	873	705	728	715
Entry HV Adj Factor	0.980	0.980	0.980	0.984	0.980	0.979
Flow Entry, veh/h	525	98	644	63	457	434
Cap Entry, veh/h	752	699	856	694	713	700
V/C Ratio	6.99	0.140	7.52	0.91	0.641	6.19
Control Delay, s/veh	18.6	6.7	19.5	6.2	16.8	16.2
LOS	C	A	C	A	C	C
95th %tile Queue, veh	0.6	0	0.7	0.0	5	0.4

Intersection	
Intersection Delay, s/veh	25.0
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1627	1436	111	311
Demand Flow Rate, veh/h	1659	1465	113	317
Vehicles Circulating, veh/h	167	384	1745	1406
Vehicles Exiting, veh/h	1556	1474	81	442
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	23.5	29.0	18.2	16.5
Approach LOS	C	D	C	C

Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LTR	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.470	0.530
Critical Headway, s	4.293	4.113	4.293	4.113	4.113	4.293	4.113
Entry Flow, veh/h	780	879	689	776	113	149	168
Cap Entry Lane, veh/h	997	1005	847	864	333	394	422
Entry HV Adj Factor	0.980	0.981	0.980	0.981	0.982	0.981	0.981
Flow Entry, veh/h	765	862	675	761	111	146	165
Cap Entry, veh/h	977	986	830	847	327	386	414
V/C Ratio	7.82	0.874	8.13	0.899	3.39	3.79	0.398
Control Delay, s/veh	19.4	27.0	24.3	33.2	18.2	16.8	16.3
LOS	C	D	C	D	C	C	C
95th %tile Queue, veh	0.8	12	0.9	12	0.1	0.2	2

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	3	3	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	0	0	112	70
Demand Flow Rate, veh/h	0	0	114	72
Vehicles Circulating, veh/h	122	139	1485	1490
Vehicles Exiting, veh/h	1440	1460	112	32
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	0.0	14.2	12.3
Approach LOS	-	-	B	B

Lane	Left	Left
Designated Moves	LTR	LTR
Assumed Moves	LTR	LTR
RT Channelized		
Lane Util	1.000	1.000
Critical Headway, s	4.113	4.113
Entry Flow, veh/h	114	72
Cap Entry Lane, veh/h	400	398
Entry HV Adj Factor	0.982	0.972
Flow Entry, veh/h	112	70
Cap Entry, veh/h	393	387
V/C Ratio	2.85	1.81
Control Delay, s/veh	14.2	12.3
LOS	B	B
95th %tile Queue, veh	0.1	0.1

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	3	3	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	0	0	77	25
Demand Flow Rate, veh/h	0	0	79	25
Vehicles Circulating, veh/h	106	124	1465	1443
Vehicles Exiting, veh/h	1362	1420	94	60
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	0.0	12.3	9.7
Approach LOS	-	-	B	A

Lane	Left	Left
Designated Moves	LTR	LTR
Assumed Moves	LTR	LTR
RT Channelized		
Lane Util	1.000	1.000
Critical Headway, s	4.113	4.113
Entry Flow, veh/h	79	25
Cap Entry Lane, veh/h	405	412
Entry HV Adj Factor	0.974	0.994
Flow Entry, veh/h	77	25
Cap Entry, veh/h	395	409
V/C Ratio	1.95	0.61
Control Delay, s/veh	12.3	9.7
LOS	B	A
95th %tile Queue, veh	0.1	0.0

Intersection	
Intersection Delay, s/veh	51.1
Intersection LOS	F

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1305	838	991	697
Demand Flow Rate, veh/h	1331	855	1011	711
Vehicles Circulating, veh/h	513	1081	1197	1179
Vehicles Exiting, veh/h	1377	1127	647	757
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	30.6	37.2	104.5	30.1
Approach LOS	D	E	F	D

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	L	LTR	LT	TR
Assumed Moves	LT	TR	LT	TR	L	TR	LT	TR
RT Channelized								
Lane Util	0.470	0.530	0.470	0.530	0.412	0.588	0.470	0.530
Critical Headway, s	4.293	4.113	4.293	4.113	4.293	4.113	4.293	4.113
Entry Flow, veh/h	626	705	402	453	417	594	334	377
Cap Entry Lane, veh/h	769	789	502	530	460	489	467	495
Entry HV Adj Factor	0.980	0.981	0.980	0.980	0.981	0.980	0.981	0.980
Flow Entry, veh/h	613	692	394	444	409	582	327	369
Cap Entry, veh/h	753	774	492	520	452	479	458	485
V/C Ratio	8.14	0.893	8.00	0.854	9.06	1.215	7.16	0.762
Control Delay, s/veh	26.2	34.6	34.6	39.6	52.1	141.2	28.9	31.2
LOS	D	D	D	E	F	F	D	D
95th %tile Queue, veh	0.9	12	0.7	9	1.0	23	0.6	7

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	911	625	103	45
Demand Flow Rate, veh/h	929	637	105	45
Vehicles Circulating, veh/h	52	103	839	694
Vehicles Exiting, veh/h	687	841	142	46
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.0	6.6	7.9	5.9
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.469	0.531	1.000	1.000
Critical Headway, s	4.293	4.113	4.293	4.113	4.113	4.113
Entry Flow, veh/h	437	492	299	338	105	45
Cap Entry Lane, veh/h	1087	1090	1046	1051	628	695
Entry HV Adj Factor	0.980	0.982	0.982	0.979	0.981	1.000
Flow Entry, veh/h	428	483	294	331	103	45
Cap Entry, veh/h	1065	1070	1027	1030	616	695
V/C Ratio	4.02	0.452	2.86	0.321	1.67	0.65
Control Delay, s/veh	7.6	8.4	6.3	6.8	7.9	5.9
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0.2	2	0.1	1	0.1	0.0

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	752	516	234	172
Demand Flow Rate, veh/h	767	526	239	176
Vehicles Circulating, veh/h	178	314	639	617
Vehicles Exiting, veh/h	615	564	306	223
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.0	7.2	9.3	7.8
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.469	0.531	0.470	0.530	1.000	1.000
Critical Headway, s	4.293	4.113	4.293	4.113	4.113	4.113
Entry Flow, veh/h	360	407	247	279	239	176
Cap Entry Lane, veh/h	989	998	893	907	722	734
Entry HV Adj Factor	0.982	0.980	0.981	0.980	0.978	0.979
Flow Entry, veh/h	354	399	242	273	234	172
Cap Entry, veh/h	971	977	876	889	706	718
V/C Ratio	3.64	0.408	2.77	0.308	3.31	2.40
Control Delay, s/veh	7.6	8.2	7.1	7.4	9.3	7.8
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0.2	2	0.1	1	0.1	0.1

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	445	597	493	346
Demand Flow Rate, veh/h	455	609	502	352
Vehicles Circulating, veh/h	511	380	443	604
Vehicles Exiting, veh/h	445	565	523	385
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	10.7	17.1	10.8	11.7
Approach LOS	B	C	B	B

Lane	Left	Right	Left	Left	Right	Left
Designated Moves	LT	R	LTR	L	TR	LTR
Assumed Moves	LT	R	LTR	L	TR	LTR
RT Channelized						
Lane Util	0.829	0.171	1.000	0.145	0.855	1.000
Critical Headway, s	4.293	4.113	4.113	4.293	4.113	4.113
Entry Flow, veh/h	377	78	609	73	429	352
Cap Entry Lane, veh/h	770	790	866	811	829	740
Entry HV Adj Factor	0.979	0.974	0.980	0.986	0.980	0.982
Flow Entry, veh/h	369	76	597	72	421	346
Cap Entry, veh/h	754	770	849	799	812	727
V/C Ratio	4.89	0.099	7.03	0.90	0.518	4.75
Control Delay, s/veh	11.7	5.7	17.1	5.4	11.7	11.7
LOS	B	A	C	A	B	B
95th %tile Queue, veh	0.3	0	0.6	0.0	3	0.3

100% Build Out

Conventional Intersection Option

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	236	941	45	31	1226	41	76	8	62	47	1	313
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	2	1	1	2	0	1	1	0	1	1	0
Cap, veh/h	317	2201	985	324	1724	58	153	58	434	372	1	368
Arrive On Green	0.18	1.00	1.00	0.49	0.49	0.49	0.04	0.31	0.31	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	524	3494	118	1774	191	1421	1318	5	1579
Grp Volume(v), veh/h	257	1023	49	34	675	703	83	0	76	51	0	341
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	524	1770	1842	1774	0	1612	1318	0	1584
Q Serve(g_s), s	7.9	0.0	0.0	3.9	34.3	34.4	3.8	0.0	3.8	3.4	0.0	23.2
Cycle Q Clear(g_c), s	7.9	0.0	0.0	3.9	34.3	34.4	3.8	0.0	3.8	3.4	0.0	23.2
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.88	1.00		1.00
Lane Grp Cap(c), veh/h	317	2201	985	324	873	909	153	0	492	372	0	369
V/C Ratio(X)	0.81	0.46	0.05	0.10	0.77	0.77	0.54	0.00	0.15	0.14	0.00	0.93
Avail Cap(c_a), veh/h	375	2201	985	324	873	909	153	0	492	372	0	369
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.0	0.0	0.0	15.1	22.8	22.8	32.4	0.0	27.8	33.7	0.0	41.3
Incr Delay (d2), s/veh	10.1	0.6	0.1	0.6	6.6	6.4	3.9	0.0	0.7	0.8	0.0	31.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	3.5	0.2	0.0	0.5	15.1	15.7	1.8	0.0	1.5	1.2	0.0	12.1
Lane Grp Delay (d), s/veh	54.1	0.6	0.1	15.7	29.4	29.2	36.3	0.0	28.5	34.4	0.0	72.5
Lane Grp LOS	D	A	A	B	C	C	D		C	C		E
Approach Vol, veh/h		1329			1412			159			392	
Approach Delay, s/veh		11.0			29.0			32.6			67.6	
Approach LOS		B			C			C			E	

Timer												
Assigned Phs	7	4			8		5	2			6	
Phs Duration (G+Y+Rc), s	14.1	72.4			58.3		8.0	37.6			29.6	
Change Period (Y+Rc), s	4.0	4.0			4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s	12.0	68.4			52.4		4.0	33.6			25.6	
Max Q Clear Time (g_c+I1), s	9.9	2.0			36.4		5.8	5.8			25.2	
Green Ext Time (p_c), s	0.2	43.5			14.0		0.0	3.7			0.2	

Intersection Summary	
HCM 2010 Ctrl Delay	26.5
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	11	1015	32	25	1204	4	40	4	32	11	6	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	0	2	0	0	2	0	0	1	1	0	1	1
Cap, veh/h	73	1909	60	84	1937	6	125	6	461	107	39	461
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	10	3386	107	29	3437	10	0	22	1583	0	136	1583
Grp Volume(v), veh/h	600	0	550	690	0	650	47	0	35	19	0	34
Grp Sat Flow(s),veh/h/ln	1827	0	1676	1783	0	1693	22	0	1583	136	0	1583
Q Serve(g_s), s	0.0	0.0	11.7	0.0	0.0	15.0	0.0	0.0	0.9	0.0	0.0	0.9
Cycle Q Clear(g_c), s	11.4	0.0	11.7	14.1	0.0	15.0	16.0	0.0	0.9	16.0	0.0	0.9
Prop In Lane	0.02		0.06	0.04		0.01	0.91		1.00	0.63		1.00
Lane Grp Cap(c), veh/h	1097	0	945	1073	0	954	132	0	461	146	0	461
V/C Ratio(X)	0.55	0.00	0.58	0.64	0.00	0.68	0.36	0.00	0.08	0.13	0.00	0.07
Avail Cap(c_a), veh/h	1097	0	945	1073	0	954	132	0	461	146	0	461
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.7	0.0	7.8	8.3	0.0	8.5	25.4	0.0	14.1	16.0	0.0	14.1
Incr Delay (d2), s/veh	2.0	0.0	2.6	3.0	0.0	3.9	7.4	0.0	0.3	1.8	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	3.8	0.0	3.7	4.7	0.0	5.0	0.6	0.0	0.3	0.2	0.0	0.3
Lane Grp Delay (d), s/veh	9.7	0.0	10.4	11.3	0.0	12.4	32.8	0.0	14.5	17.8	0.0	14.4
Lane Grp LOS	A		B	B		B	C		B	B		B
Approach Vol, veh/h		1150			1340			82			53	
Approach Delay, s/veh		10.0			11.8			25.0			15.6	
Approach LOS		B			B			C			B	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		35.0			35.0			20.0			20.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		31.0			31.0			16.0			16.0	
Max Q Clear Time (g_c+I1), s		13.7			17.0			18.0			18.0	
Green Ext Time (p_c), s		15.0			12.5			0.0			0.0	

Intersection Summary		
HCM 2010 Ctrl Delay		11.5
HCM 2010 LOS		B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	28	978	29	10	1175	11	30	3	21	17	3	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Cap, veh/h	281	2413	1080	345	2450	23	392	46	350	387	57	340
Arrive On Green	0.68	0.68	0.68	0.68	0.68	0.68	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	427	3539	1583	513	3593	34	1385	186	1425	1379	231	1387
Grp Volume(v), veh/h	30	1063	32	11	629	660	33	0	26	18	0	21
Grp Sat Flow(s),veh/h/ln	427	1770	1583	513	1770	1857	1385	0	1611	1379	0	1618
Q Serve(g_s), s	4.1	15.0	0.7	1.1	19.3	19.3	2.1	0.0	1.4	1.1	0.0	1.1
Cycle Q Clear(g_c), s	23.4	15.0	0.7	16.1	19.3	19.3	3.1	0.0	1.4	2.5	0.0	1.1
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.88	1.00		0.86
Lane Grp Cap(c), veh/h	281	2413	1080	345	1207	1266	392	0	395	387	0	397
V/C Ratio(X)	0.11	0.44	0.03	0.03	0.52	0.52	0.08	0.00	0.07	0.05	0.00	0.05
Avail Cap(c_a), veh/h	281	2413	1080	345	1207	1266	392	0	395	387	0	397
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.4	8.0	5.7	11.6	8.6	8.6	32.9	0.0	31.8	32.8	0.0	31.7
Incr Delay (d2), s/veh	0.8	0.6	0.1	0.2	1.6	1.5	0.4	0.0	0.3	0.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.5	5.2	0.2	0.1	7.0	7.3	0.7	0.0	0.6	0.4	0.0	0.4
Lane Grp Delay (d), s/veh	15.2	8.5	5.7	11.8	10.3	10.2	33.3	0.0	32.1	33.0	0.0	32.0
Lane Grp LOS	B	A	A	B	B	B	C		C	C		C
Approach Vol, veh/h		1125			1300			59			39	
Approach Delay, s/veh		8.6			10.2			32.8			32.5	
Approach LOS		A			B			C			C	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		79.0			79.0			31.0			31.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		75.0			75.0			27.0			27.0	
Max Q Clear Time (g_c+I1), s		25.4			21.3			5.1			4.5	
Green Ext Time (p_c), s		34.6			36.6			0.4			0.4	

Intersection Summary		
HCM 2010 Ctrl Delay		10.4
HCM 2010 LOS		B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	287	424	310	188	486	235	339	195	162	107	220	360
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	2	1	2	2	1	1	1	1	1	1	1
Cap, veh/h	388	1053	471	273	935	418	519	953	810	379	587	499
Arrive On Green	0.11	0.30	0.30	0.08	0.26	0.26	0.16	0.51	0.51	0.32	0.32	0.32
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	1774	1863	1583	992	1863	1583
Grp Volume(v), veh/h	312	461	337	204	528	255	368	212	176	116	239	391
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1774	1863	1583	992	1863	1583
Q Serve(g_s), s	9.5	11.3	13.6	6.2	13.9	15.2	14.3	6.7	6.6	9.8	10.8	24.2
Cycle Q Clear(g_c), s	9.5	11.3	13.6	6.2	13.9	15.2	14.3	6.7	6.6	9.8	10.8	24.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	388	1053	471	273	935	418	519	953	810	379	587	499
V/C Ratio(X)	0.80	0.44	0.72	0.75	0.56	0.61	0.71	0.22	0.22	0.31	0.41	0.78
Avail Cap(c_a), veh/h	512	1053	471	352	935	418	600	953	810	379	587	499
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	30.5	15.0	48.4	34.2	34.7	18.9	14.5	14.4	28.6	28.9	33.5
Incr Delay (d2), s/veh	6.9	1.3	9.0	6.3	2.5	6.5	3.2	0.5	0.6	2.1	2.1	11.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	4.4	4.9	5.8	2.9	6.3	6.6	6.1	2.9	2.4	2.5	5.1	10.6
Lane Grp Delay (d), s/veh	53.4	31.8	24.0	54.7	36.7	41.2	22.1	15.0	15.1	30.6	31.0	45.1
Lane Grp LOS	D	C	C	D	D	D	C	B	B	C	C	D
Approach Vol, veh/h		1110			987			756			746	
Approach Delay, s/veh		35.5			41.6			18.5			38.4	
Approach LOS		D			D			B			D	

Timer												
Assigned Phs	7	4		3	8		5	2			6	
Phs Duration (G+Y+Rc), s	16.1	36.0		12.5	32.4		21.1	59.0			37.9	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s	16.0	32.0		11.0	27.0		22.0	55.0			29.0	
Max Q Clear Time (g_c+I1), s	11.5	15.6		8.2	17.2		16.3	8.7			26.2	
Green Ext Time (p_c), s	0.6	4.8		0.3	4.4		0.8	8.1			1.7	

Intersection Summary	
HCM 2010 Ctrl Delay	34.2
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	124	425	70	177	448	37	169	22	114	33	29	252
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	0	1	2	0	1	1	0	0	1	1
Cap, veh/h	343	1112	182	337	1209	99	238	132	682	355	289	583
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.07	0.50	0.50	0.37	0.37	0.37
Sat Flow, veh/h	872	3046	498	864	3313	271	1774	263	1360	714	785	1583
Grp Volume(v), veh/h	135	267	271	192	259	268	184	0	148	68	0	274
Grp Sat Flow(s),veh/h/ln	872	1770	1775	864	1770	1815	1774	0	1623	1499	0	1583
Q Serve(g_s), s	8.2	6.8	6.9	12.9	6.5	6.6	3.7	0.0	3.0	20.3	0.0	7.9
Cycle Q Clear(g_c), s	14.8	6.8	6.9	19.7	6.5	6.6	3.7	0.0	3.0	22.1	0.0	7.9
Prop In Lane	1.00		0.28	1.00		0.15	1.00		0.84	0.53		1.00
Lane Grp Cap(c), veh/h	343	646	648	337	646	662	238	0	814	644	0	583
V/C Ratio(X)	0.39	0.41	0.42	0.57	0.40	0.40	0.77	0.00	0.18	0.11	0.00	0.47
Avail Cap(c_a), veh/h	343	646	648	337	646	662	238	0	814	644	0	583
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.7	14.2	14.3	21.7	14.2	14.2	14.3	0.0	8.2	15.9	0.0	14.5
Incr Delay (d2), s/veh	3.4	2.0	2.0	6.9	1.9	1.8	14.4	0.0	0.5	0.3	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.8	2.7	2.8	2.9	2.6	2.7	3.4	0.0	0.9	0.6	0.0	2.9
Lane Grp Delay (d), s/veh	23.1	16.2	16.3	28.5	16.0	16.0	28.7	0.0	8.7	16.2	0.0	17.2
Lane Grp LOS	C	B	B	C	B	B	C		A	B		B
Approach Vol, veh/h		673			719			332			342	
Approach Delay, s/veh		17.6			19.4			19.8			17.0	
Approach LOS		B			B			B			B	
Timer												
Assigned Phs		4			8		5	2			6	
Phs Duration (G+Y+Rc), s		25.9			25.9		8.0	34.1			26.1	
Change Period (Y+Rc), s		4.0			4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s		21.9			21.9		4.0	30.1			22.1	
Max Q Clear Time (g_c+I1), s		16.8			21.7		5.7	5.0			24.1	
Green Ext Time (p_c), s		3.5			0.2		0.0	3.0			0.0	
Intersection Summary												
HCM 2010 Ctrl Delay			18.5									
HCM 2010 LOS			B									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	610	37	25	823	5	44	5	30	5	5	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		1.00	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Cap, veh/h	441	2337	141	534	2486	14	382	47	312	358	189	189
Arrive On Green	0.69	0.69	0.69	0.69	0.69	0.69	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	616	3392	204	741	3609	20	1390	213	1403	1364	853	853
Grp Volume(v), veh/h	5	346	357	27	439	461	48	0	38	5	0	10
Grp Sat Flow(s),veh/h/ln	616	1770	1827	741	1770	1859	1390	0	1615	1364	0	1705
Q Serve(g_s), s	0.3	6.8	6.8	1.3	9.2	9.2	2.5	0.0	1.7	0.3	0.0	0.4
Cycle Q Clear(g_c), s	9.5	6.8	6.8	8.1	9.2	9.2	2.9	0.0	1.7	2.0	0.0	0.4
Prop In Lane	1.00		0.11	1.00		0.01	1.00		0.87	1.00		0.50
Lane Grp Cap(c), veh/h	441	1219	1258	534	1219	1281	382	0	359	358	0	379
V/C Ratio(X)	0.01	0.28	0.28	0.05	0.36	0.36	0.13	0.00	0.11	0.01	0.00	0.03
Avail Cap(c_a), veh/h	441	1219	1258	534	1219	1281	382	0	359	358	0	379
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.8	5.4	5.4	7.0	5.8	5.8	28.5	0.0	27.9	28.7	0.0	27.4
Incr Delay (d2), s/veh	0.0	0.6	0.6	0.2	0.8	0.8	0.7	0.0	0.6	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.0	2.2	2.3	0.2	3.0	3.1	0.9	0.0	0.7	0.1	0.0	0.2
Lane Grp Delay (d), s/veh	7.8	6.0	6.0	7.2	6.6	6.6	29.2	0.0	28.5	28.7	0.0	27.5
Lane Grp LOS	A	A	A	A	A	A	C		C	C		C
Approach Vol, veh/h		708			927			86			15	
Approach Delay, s/veh		6.0			6.6			28.9			27.9	
Approach LOS		A			A			C			C	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		66.0			66.0			24.0			24.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		62.0			62.0			20.0			16.0	
Max Q Clear Time (g_c+I1), s		11.5			11.2			4.9			4.0	
Green Ext Time (p_c), s		18.8			18.8			0.4			0.3	

Intersection Summary												
HCM 2010 Ctrl Delay			7.7									
HCM 2010 LOS			A									

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	74	409	90	169	362	62	58	201	220	84	246	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	407	828	703	365	828	703	452	760	646	440	760	646
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	928	1863	1583	860	1863	1583	1033	1863	1583	931	1863	1583
Grp Volume(v), veh/h	80	445	98	184	393	67	63	218	239	91	267	76
Grp Sat Flow(s),veh/h/ln	928	1863	1583	860	1863	1583	1033	1863	1583	931	1863	1583
Q Serve(g_s), s	3.6	9.4	2.0	10.8	8.0	1.3	2.4	4.2	5.7	3.9	5.4	1.6
Cycle Q Clear(g_c), s	11.6	9.4	2.0	20.2	8.0	1.3	7.8	4.2	5.7	8.2	5.4	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	407	828	703	365	828	703	452	760	646	440	760	646
V/C Ratio(X)	0.20	0.54	0.14	0.50	0.47	0.10	0.14	0.29	0.37	0.21	0.35	0.12
Avail Cap(c_a), veh/h	422	856	728	378	856	728	452	760	646	440	760	646
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.7	11.0	8.9	18.4	10.6	8.7	13.8	10.7	11.2	13.5	11.1	10.0
Incr Delay (d2), s/veh	0.2	0.6	0.1	1.1	0.4	0.1	0.6	0.9	1.6	1.1	1.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.7	3.4	0.6	1.9	2.8	0.4	0.6	1.7	2.0	0.8	2.1	0.6
Lane Grp Delay (d), s/veh	14.9	11.6	9.0	19.4	11.0	8.8	14.4	11.7	12.8	14.6	12.4	10.3
Lane Grp LOS	B	B	A	B	B	A	B	B	B	B	B	B
Approach Vol, veh/h		623			644			520			434	
Approach Delay, s/veh		11.6			13.2			12.5			12.5	
Approach LOS		B			B			B			B	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		28.1			28.1			26.1			26.1	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		24.9			24.9			22.1			22.1	
Max Q Clear Time (g_c+I1), s		13.6			22.2			9.8			10.2	
Green Ext Time (p_c), s		6.0			1.8			4.5			4.4	

Intersection Summary												
HCM 2010 Ctrl Delay			12.5									
HCM 2010 LOS			B									

Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	293	1158	46	23	1104	106	53	1	48	35	5	247
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	2	0	1	2	0	1	1	0	0	1	1
Cap, veh/h	374	2073	82	251	1447	138	128	9	486	343	41	366
Arrive On Green	0.22	1.00	1.00	0.44	0.44	0.44	0.04	0.31	0.31	0.23	0.23	0.23
Sat Flow, veh/h	3442	3470	138	418	3265	312	1774	30	1558	1216	179	1583
Grp Volume(v), veh/h	318	642	667	25	649	666	58	0	53	43	0	268
Grp Sat Flow(s),veh/h/ln	1721	1770	1838	418	1770	1808	1774	0	1588	1395	0	1583
Q Serve(g_s), s	9.8	0.0	0.0	3.9	35.5	35.7	2.7	0.0	2.6	25.2	0.0	17.2
Cycle Q Clear(g_c), s	9.8	0.0	0.0	3.9	35.5	35.7	2.7	0.0	2.6	25.4	0.0	17.2
Prop In Lane	1.00		0.07	1.00		0.17	1.00		0.98	0.88		1.00
Lane Grp Cap(c), veh/h	374	1057	1098	251	784	801	128	0	495	384	0	366
V/C Ratio(X)	0.85	0.61	0.61	0.10	0.83	0.83	0.45	0.00	0.11	0.11	0.00	0.73
Avail Cap(c_a), veh/h	407	1057	1098	251	784	801	130	0	495	384	0	366
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	0.80	0.80	0.80	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.2	0.0	0.0	18.1	26.9	27.0	32.5	0.0	26.9	52.4	0.0	39.1
Incr Delay (d2), s/veh	12.2	2.1	2.0	0.8	9.8	9.8	2.5	0.0	0.4	0.6	0.0	12.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	4.3	0.6	0.6	0.4	16.6	17.0	1.7	0.0	1.0	1.2	0.0	7.8
Lane Grp Delay (d), s/veh	54.4	2.1	2.0	18.9	36.8	36.8	35.0	0.0	27.4	53.0	0.0	51.3
Lane Grp LOS	D	A	A	B	D	D	D		C	D		D
Approach Vol, veh/h		1627			1340			111			311	
Approach Delay, s/veh		12.3			36.4			31.4			51.6	
Approach LOS		B			D			C			D	
Timer												
Assigned Phs	7	4			8		5	2			6	
Phs Duration (G+Y+Rc), s	17.0	70.7			53.7		8.9	39.3			30.4	
Change Period (Y+Rc), s	5.0	5.0			5.0		5.0	5.0			5.0	
Max Green Setting (Gmax), s	13.0	65.7			47.7		4.0	34.3			25.3	
Max Q Clear Time (g_c+I1), s	11.8	2.0			37.7		4.7	4.6			27.4	
Green Ext Time (p_c), s	0.2	45.4			9.3		0.0	2.1			0.0	
Intersection Summary												
HCM 2010 Ctrl Delay			26.1									
HCM 2010 LOS			C									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	19	1214	44	55	1156	9	52	1	50	26	2	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	1	1	2	0	1	1	0	0	1	1
Cap, veh/h	312	2542	1137	283	2585	21	65	6	298	270	17	302
Arrive On Green	0.72	0.72	0.72	0.72	0.72	0.72	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	436	3539	1583	396	3599	29	1359	29	1559	1083	90	1583
Grp Volume(v), veh/h	21	1320	48	60	618	649	57	0	55	30	0	40
Grp Sat Flow(s),veh/h/ln	436	1770	1583	396	1770	1858	1359	0	1588	1173	0	1583
Q Serve(g_s), s	2.4	18.4	1.0	8.8	16.6	16.6	0.0	0.0	3.2	17.8	0.0	2.3
Cycle Q Clear(g_c), s	19.1	18.4	1.0	27.3	16.6	16.6	21.0	0.0	3.2	21.0	0.0	2.3
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.98	0.93		1.00
Lane Grp Cap(c), veh/h	312	2542	1137	283	1271	1334	65	0	303	287	0	302
V/C Ratio(X)	0.07	0.52	0.04	0.21	0.49	0.49	0.87	0.00	0.18	0.10	0.00	0.13
Avail Cap(c_a), veh/h	312	2542	1137	283	1271	1334	65	0	303	287	0	302
HCM Platoon Ratio	0.06	671088.66	671088.63	0.06	671088.66	671088.63	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.8	7.0	4.5	13.1	6.7	6.7	55.0	0.0	37.3	53.3	0.0	36.9
Incr Delay (d2), s/veh	0.4	0.8	0.1	1.7	1.3	1.3	78.7	0.0	1.3	0.7	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.3	6.0	0.3	0.9	5.6	5.9	3.0	0.0	1.3	0.9	0.0	1.0
Lane Grp Delay (d), s/veh	11.3	7.7	4.6	14.8	8.0	8.0	133.7	0.0	38.6	54.0	0.0	37.8
Lane Grp LOS	B	A	A	B	A	A	F		D	D		D
Approach Vol, veh/h		1389			1327			112			70	
Approach Delay, s/veh		7.7			8.3			87.0			44.8	
Approach LOS		A			A			F			D	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		84.0			84.0			26.0			26.0	
Change Period (Y+Rc), s		5.0			5.0			5.0			5.0	
Max Green Setting (Gmax), s		79.0			79.0			21.0			21.0	
Max Q Clear Time (g_c+I1), s		21.1			29.3			23.0			23.0	
Green Ext Time (p_c), s		43.7			38.9			0.0			0.0	

Intersection Summary		
HCM 2010 Ctrl Delay	11.9	
HCM 2010 LOS	B	

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	27	1190	47	30	1134	24	35	3	33	4	7	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Cap, veh/h	278	2349	1051	256	2352	50	392	30	363	374	157	255
Arrive On Green	0.66	0.66	0.66	0.66	0.66	0.66	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	439	3539	1583	405	3544	75	1385	123	1479	1363	640	1040
Grp Volume(v), veh/h	29	1293	51	33	615	644	38	0	39	4	0	21
Grp Sat Flow(s),veh/h/ln	439	1770	1583	405	1770	1850	1385	0	1602	1363	0	1679
Q Serve(g_s), s	4.0	21.3	1.2	5.2	19.7	19.7	2.4	0.0	2.1	0.3	0.0	1.1
Cycle Q Clear(g_c), s	23.8	21.3	1.2	26.5	19.7	19.7	3.4	0.0	2.1	2.3	0.0	1.1
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.92	1.00		0.62
Lane Grp Cap(c), veh/h	278	2349	1051	256	1174	1227	392	0	393	374	0	412
V/C Ratio(X)	0.10	0.55	0.05	0.13	0.52	0.52	0.10	0.00	0.10	0.01	0.00	0.05
Avail Cap(c_a), veh/h	278	2349	1051	256	1174	1227	392	0	393	374	0	412
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.7	9.8	6.4	16.8	9.5	9.5	33.0	0.0	32.1	33.0	0.0	31.7
Incr Delay (d2), s/veh	0.8	0.9	0.1	1.0	1.7	1.6	0.5	0.0	0.5	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.5	7.5	0.4	0.6	7.2	7.5	0.9	0.0	0.8	0.1	0.0	0.4
Lane Grp Delay (d), s/veh	16.4	10.7	6.5	17.9	11.2	11.1	33.5	0.0	32.6	33.0	0.0	31.9
Lane Grp LOS	B	B	A	B	B	B	C		C	C		C
Approach Vol, veh/h		1373			1292			77			25	
Approach Delay, s/veh		10.7			11.4			33.0			32.1	
Approach LOS		B			B			C			C	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		78.0			78.0			32.0			32.0	
Change Period (Y+Rc), s		5.0			5.0			5.0			5.0	
Max Green Setting (Gmax), s		73.0			73.0			27.0			27.0	
Max Q Clear Time (g_c+I1), s		25.8			28.5			5.4			4.3	
Green Ext Time (p_c), s		36.8			35.1			0.5			0.5	

Intersection Summary												
HCM 2010 Ctrl Delay			11.8									
HCM 2010 LOS			B									

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	322	591	272	118	540	99	376	261	274	138	193	310
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	2	1	2	2	1	1	1	1	1	1	1
Cap, veh/h	418	1102	493	199	876	392	534	917	779	287	495	421
Arrive On Green	0.12	0.31	0.31	0.06	0.25	0.25	0.18	0.49	0.49	0.27	0.27	0.27
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	1774	1863	1583	829	1863	1583
Grp Volume(v), veh/h	350	642	296	128	587	108	409	284	298	150	210	337
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1774	1863	1583	829	1863	1583
Q Serve(g_s), s	10.8	16.5	10.4	3.9	16.2	6.0	17.4	9.9	12.7	17.6	10.1	21.5
Cycle Q Clear(g_c), s	10.8	16.5	10.4	3.9	16.2	6.0	17.4	9.9	12.7	17.6	10.1	21.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	418	1102	493	199	876	392	534	917	779	287	495	421
V/C Ratio(X)	0.84	0.58	0.60	0.64	0.67	0.28	0.77	0.31	0.38	0.52	0.42	0.80
Avail Cap(c_a), veh/h	477	1102	493	254	876	392	542	917	779	287	495	421
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	31.4	11.5	49.9	36.7	32.9	21.5	16.5	17.2	35.6	32.9	37.1
Incr Delay (d2), s/veh	11.2	2.3	5.3	3.5	4.1	1.7	6.4	0.9	1.4	6.7	2.6	14.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	5.2	7.3	4.2	1.8	7.4	2.5	7.9	4.2	4.8	4.0	4.9	9.8
Lane Grp Delay (d), s/veh	57.7	33.6	16.9	53.4	40.8	34.6	27.9	17.3	18.6	42.3	35.5	51.8
Lane Grp LOS	E	C	B	D	D	C	C	B	B	D	D	D
Approach Vol, veh/h		1288			823			991			697	
Approach Delay, s/veh		36.3			41.9			22.1			44.8	
Approach LOS		D			D			C			D	
Timer												
Assigned Phs	7	4		3	8		5	2			6	
Phs Duration (G+Y+Rc), s	18.2	38.7		11.3	31.8		24.5	58.3			33.8	
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Max Green Setting (Gmax), s	15.0	33.7		8.0	26.7		20.0	53.3			28.3	
Max Q Clear Time (g_c+I1), s	12.8	18.5		5.9	18.2		19.4	14.7			23.5	
Green Ext Time (p_c), s	0.4	5.8		0.5	3.6		0.1	9.2			2.9	
Intersection Summary												
HCM 2010 Ctrl Delay			35.4									
HCM 2010 LOS			D									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	148	402	142	104	334	37	119	17	80	26	30	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	1	1	2	1	0	1	1	0	1	1
Cap, veh/h	455	1416	633	390	1416	633	123	9	662	95	80	662
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	978	3539	1583	822	3539	1583	0	23	1583	0	191	1583
Grp Volume(v), veh/h	161	437	154	113	363	40	147	0	87	61	0	111
Grp Sat Flow(s),veh/h/ln	978	1770	1583	822	1770	1583	23	0	1583	191	0	1583
Q Serve(g_s), s	7.2	4.6	3.6	6.0	3.8	0.9	0.0	0.0	1.9	0.0	0.0	2.4
Cycle Q Clear(g_c), s	11.0	4.6	3.6	10.6	3.8	0.9	23.0	0.0	1.9	23.0	0.0	2.4
Prop In Lane	1.00		1.00	1.00		1.00	0.88		1.00	0.46		1.00
Lane Grp Cap(c), veh/h	455	1416	633	390	1416	633	132	0	662	175	0	662
V/C Ratio(X)	0.35	0.31	0.24	0.29	0.26	0.06	1.11	0.00	0.13	0.35	0.00	0.17
Avail Cap(c_a), veh/h	455	1416	633	390	1416	633	132	0	662	175	0	662
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.7	11.3	11.0	14.9	11.0	10.2	25.9	0.0	9.9	13.5	0.0	10.0
Incr Delay (d2), s/veh	2.1	0.6	0.9	1.9	0.4	0.2	111.0	0.0	0.4	5.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.7	1.6	1.2	1.2	1.3	0.3	5.7	0.0	0.6	0.6	0.0	0.8
Lane Grp Delay (d), s/veh	16.9	11.9	11.9	16.8	11.5	10.3	136.9	0.0	10.3	18.9	0.0	10.6
Lane Grp LOS	B	B	B	B	B	B	F		B	B		B
Approach Vol, veh/h		752			516			234			172	
Approach Delay, s/veh		12.9			12.6			89.8			13.5	
Approach LOS		B			B			F			B	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		27.0			27.0			28.0			28.0	
Change Period (Y+Rc), s		5.0			5.0			5.0			5.0	
Max Green Setting (Gmax), s		22.0			22.0			23.0			23.0	
Max Q Clear Time (g_c+I1), s		13.0			12.6			25.0			25.0	
Green Ext Time (p_c), s		5.1			5.3			0.0			0.0	

Intersection Summary		
HCM 2010 Ctrl Delay	23.6	
HCM 2010 LOS	C	

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	717	101	26	529	5	71	1	22	5	5	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	0	1	2	1	1	1	0	1	1	0
Cap, veh/h	418	1315	186	303	1494	669	652	23	544	637	304	304
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	831	3115	440	623	3539	1583	1399	64	1529	1380	856	856
Grp Volume(v), veh/h	5	442	447	28	575	5	77	0	25	5	0	10
Grp Sat Flow(s),veh/h/ln	831	1770	1785	623	1770	1583	1399	0	1593	1380	0	1712
Q Serve(g_s), s	0.2	8.7	8.7	1.6	5.0	0.1	1.7	0.0	0.5	0.1	0.0	0.2
Cycle Q Clear(g_c), s	5.2	8.7	8.7	10.3	5.0	0.1	1.9	0.0	0.5	0.6	0.0	0.2
Prop In Lane	1.00		0.25	1.00		1.00	1.00		0.96	1.00		0.50
Lane Grp Cap(c), veh/h	418	747	754	303	1494	669	652	0	566	637	0	609
V/C Ratio(X)	0.01	0.59	0.59	0.09	0.38	0.01	0.12	0.00	0.04	0.01	0.00	0.02
Avail Cap(c_a), veh/h	418	747	754	303	1494	669	652	0	566	637	0	609
HCM Platoon Ratio	0.06	71088.66	71088.63	0.06	71088.66	71088.63	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.8	10.0	10.0	14.0	9.0	7.5	10.0	0.0	9.5	9.7	0.0	9.4
Incr Delay (d2), s/veh	0.1	3.4	3.4	0.1	0.2	0.0	0.4	0.0	0.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.0	3.2	3.2	0.2	1.4	0.0	0.5	0.0	0.1	0.0	0.0	0.1
Lane Grp Delay (d), s/veh	10.8	13.4	13.4	14.1	9.1	7.5	10.4	0.0	9.6	9.7	0.0	9.4
Lane Grp LOS	B	B	B	B	A	A	B		A	A		A
Approach Vol, veh/h		894			608			102			15	
Approach Delay, s/veh		13.4			9.3			10.2			9.5	
Approach LOS		B			A			B			A	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		24.0			24.0			21.0			21.0	
Change Period (Y+Rc), s		5.0			5.0			5.0			5.0	
Max Green Setting (Gmax), s		19.0			19.0			16.0			16.0	
Max Q Clear Time (g_c+I1), s		10.7			12.3			3.9			2.6	
Green Ext Time (p_c), s		6.0			5.0			0.3			0.4	

Intersection Summary	
HCM 2010 Ctrl Delay	11.7
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	71	269	70	204	275	70	66	206	181	60	198	61
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	408	721	613	433	721	613	517	787	669	468	787	669
Arrive On Green	0.39	0.39	0.00	0.39	0.39	0.39	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	1003	1863	1583	1083	1863	1583	1094	1863	1583	962	1863	1583
Grp Volume(v), veh/h	77	292	0	222	299	76	72	224	197	65	215	66
Grp Sat Flow(s),veh/h/ln	1003	1863	1583	1083	1863	1583	1094	1863	1583	962	1863	1583
Q Serve(g_s), s	3.2	6.0	0.0	9.8	6.2	1.6	2.4	4.1	4.3	2.5	4.0	1.3
Cycle Q Clear(g_c), s	9.3	6.0	0.0	15.8	6.2	1.6	6.4	4.1	4.3	6.6	4.0	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	408	721	613	433	721	613	517	787	669	468	787	669
V/C Ratio(X)	0.19	0.41	0.00	0.51	0.41	0.12	0.14	0.28	0.29	0.14	0.27	0.10
Avail Cap(c_a), veh/h	455	808	687	484	808	687	517	787	669	468	787	669
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.2	11.7	0.0	17.5	11.8	10.4	12.0	10.0	10.0	12.1	9.9	9.1
Incr Delay (d2), s/veh	0.2	0.4	0.0	0.9	0.4	0.1	0.6	0.9	1.1	0.6	0.9	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.7	2.2	0.0	2.3	2.2	0.5	0.6	1.6	1.4	0.5	1.5	0.4
Lane Grp Delay (d), s/veh	15.4	12.1	0.0	18.4	12.1	10.5	12.5	10.9	11.1	12.8	10.8	9.4
Lane Grp LOS	B	B		B	B	B	B	B	B	B	B	A
Approach Vol, veh/h		369			597			493			346	
Approach Delay, s/veh		12.8			14.3			11.2			10.9	
Approach LOS		B			B			B			B	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		25.3			25.3			27.2			27.2	
Change Period (Y+Rc), s		5.0			5.0			5.0			5.0	
Max Green Setting (Gmax), s		22.8			22.8			22.2			22.2	
Max Q Clear Time (g_c+I1), s		11.3			17.8			8.4			8.6	
Green Ext Time (p_c), s		4.5			2.5			4.2			4.2	

Intersection Summary		
HCM 2010 Ctrl Delay		12.5
HCM 2010 LOS		B

Notes